

American FORESTS



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IF THERE were only two telephones in your town the fortunate possessors would probably put them on pedestals in the most prominent places in their homes. Neighbors would flock to see them. Children would clamor to touch them. Bolder ones would lift the receiver to hear the magic voice—then hang up suddenly in bewilderment.

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AMERICAN TELEPHONE AND TELEGRAPH COMPANY

Entered as second-class matter at the Post-Office at Washington, D. C., under the Act of March 3, 1879. Acceptable for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918. Additional Entry at Baltimore, Md., December 29, 1931.



AMERICAN FORESTS

OVID BUTLER, Editor

L. M. CROMELIN and ERLE KAUFFMAN, Assistant Editors

Published Monthly—35 cents a copy—\$4.00 a year

1727 K Street Northwest
WASHINGTON, D. C.

Vol. 38

JULY, 1932

No. 7

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I Long for Peace among the Hills

Verse and Illumination
by
Thornton Oakley.



O grim, all potent master, Fate
relent and set me free
From bonds of cities, canyon streets,
the thrall of industry :
Transport me from the hives of men
where clamor makes its home
And on a mountain's soundless sward
there grant that I may roam.

I weary of the struggle, strife,
the surge of multitude :
I long for peace among the hills
in silent solitude ; ✦
Where flower-spangled meadows lie,
where wait the high plateaus,
Where eagles hover gentians nod
beside the virgin snows ;

Where summits dazzling, looming far,
their crests beyond the clouds,
Look down with pity from their heights
on cities' shadowed crowds ;
Where peaks eternal, crowned with
remote from earthly sod, light
Reveal the splendor of the skies,
the glory that is God . ✦

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MODERN VIGILANTES

By R. F. HAMMATT

Confronted by a critical break down in forest protection in the Northwest, three thousand public-spirited citizens of Idaho and Montana have organized for voluntary service as did the vigilantes of old to protect the natural resources of their states against man-caused fire.

So serious is the situation that the governors of the two states have issued proclamations calling upon all responsible citizens to help avert the toll of death, damage, and destruction that a season of fire prevention resources holds in store.

Active, aggressive warfare through law enforcement is the motto of these modern vigilantes. Working with them is every district attorney, every judge, every justice of the peace. Each is ready and waiting for what the summer may bring.—*Editor.*

DURING the summer of 1932 the forests of the West—last great stands of virgin timber in the United States, beloved playgrounds of a nation—face a serious menace. So serious does it appear, and over so far flung an area does it extend, that it takes on, right now, the proportions of an impending crisis.

The menace is fire—man-caused forest fires which, inadequately checked, become holocausts devouring in their relentless march forest and field, home, hamlet and human lives.

Man-caused fires are nothing new. Why, then, do they now assume the proportions of a crisis? Because funds for forest protection are low—lower than for years. Because in Montana and

North Idaho, by way of example, reductions in federal appropriations must be translated into fewer men in the National Forests—fewer than were on the job in 1931, 1930, 1929, 1928, or in 1927—fewer rangers, guards, patrolmen, firemen and smokechasers. To the point, 1,200, there will

be less men to find and to fight the thousands of fires that will spring up during the hot, dry summer on 26,000,000 acres of rough, rugged, inaccessible but indescribably beautiful mountain slopes.

Because there will be fewer guardians for our National Parks—for Glacier, in Montana; for Yellowstone, in Wyoming; for Yosemite, Sequoia and Lassen, in California; for Bryce and Zion, in Utah; for Grand



Declaring war against fires, Governor J. E. Erickson, of Montana, signs an appeal to the citizens of his State urging that their efforts be concentrated upon fire prevention and the speedy apprehension of incendiaries.

Canyon, in Arizona, and for Rocky Mountain Park, in Colorado. Because state funds are low and private funds lower. Because the lumber industry is in dire straits; is letting much of its thrifty second-growth lands go protectionless and revert for taxes; is disbanding some associations which have been charged with the duty of protecting its virgin timber stands from fire and is, perforce, seriously curtailing the resources of other associations which still exist.

And, finally, because many men are careless—and some are vicious! Which, in plain, straightforward English means that some men are forest incendiaries.

The man out of work is not, as a class, an incendiary—Not even the desperate man with a wife and babies to feed. Not even the "bum" or the "floater," swarming every west-bound freight train and dropping off in groups of ten, fifty, or one hundred, each looking, searching, intent on securing something to do, some chance to eat. They know that human carelessness starts many fires; that lightning starts many more. They know that forest fires mean jobs; that those jobs mean food. And they are willing, eager, to tackle the long hours, the low pay, the gruelling, grinding job of fighting forest fires amid flames, smoke and crashing trees.

It is not these men as a class who, casting aside all thought of damage, of misery, of suffering caused by forest fires, slink silently into the forest, apply the match and then—sit and gloat! No. These men have seen too much of misery to deal it out wholesale in such a manner.

The forest incendiary is the man apparently normal but in reality with unbalanced mind; the pyromaniac; the man with a real or fancied grudge; the vicious, malicious, pervert. And in most cases he lives, perhaps unsuspected, in local communities. It is he who sneaks out, when the mood strikes him, to wreak his vengeance upon unsuspecting friends and neighbors and then sneaks back to chuckle in unholy glee at the results of his efforts.

But not all man-caused fires are of incendiary origin. For this moral pervert, despite the fact that he was responsible last year for damage in excess of one million dollars in the National Forests of north Idaho and Montana, is small in number. Careless campers start a larger number than can be laid to the incendiary; thoughtless smokers are responsible

for three times that number. A few start from lumbering operations, debris burning, clearing land for agricultural crops. And railroads, by virtue of a combination of soft coal and faulty spark arrestors, set many blazes. One of the queerest of man-caused fires was started by a humble burro, a "Rocky Mountain canary," known since pioneer days as the patient bearer of burdens for prospector and frontiersman: that shaggy, diminutive, ornery animal which has played so big a part in the winning of the West. The official report, coming from southwestern Oregon, reads as follows:

"The Silver Creek fire was started by a burro that fell off a prospector's narrow trail, crushing a can of matches in the pack, and spilling them out on his descent down the mountain side. The prospector worked hard to put the fire out, but was unable to do much until help came from Bald Mountain and later from Kerby, Agness, and Galice. The burro

eventually stopped a thousand feet below in the bottom of Silver Creek—a very good and dead burro, indeed. No more will he steal the prospector's pancake flour and mush."

In that very rough and broken country, with few if any trails, the forest fire thus innocently started by this burro spread over thousands of acres before it was controlled. It is the careless camper and the thoughtless smoker, as well as the vicious incendiary, that Governor Erickson had in mind when he said:

"The time has come when responsible, reputable citizens of Montana are convinced that this drain upon their resources can no longer be tolerated.

"Realizing their individual responsibility, these public-spirited citizens have asked for appointment as volunteer fire wardens. Determined to stop the toll of death, damage and destruction in Montana's forests and on her forest lands, they have banded together as did the Vigilante committees of pioneer days, donating their services for the common good.

"Operating with all the power conferred upon them by the fire and forest laws of their State, they have declared war against carelessness and incendiarism. Squarely behind them stands the power of the State and its criminal procedure applicable in the enforcement of those laws.

"The State of Montana, through its forestry department, welcomes the active assistance of these public-spirited citizens. It is urged that their efforts be concentrated upon edu-



EMERGENCY EQUIPMENT OF THE FOREST FIRE FIGHTER

In the face of a new fire menace threatening the Northwest this summer, due to a decrease in federal appropriations for forest fire prevention and suppression on the National Forests, citizens have banded into "Vigilantes" and stand ready to shoulder emergency packs like the one shown above. Their chief concern, however, will be to stamp out man-caused fires through education and law enforcement.



What the "Modern Vigilantes" have vowed to prevent. The Half-Moon fire near the entrance of Glacier National Park was caused by human carelessness and destroyed many hundreds of acres of wild forest beauty.

cation and law enforcement."

More than 1,500 Montanans have responded to the call. Led by the Governor, who has accepted appointment from his own State Forester, they are determined to stop this drain at its source. Active, aggressive warfare is declared. Law enforcement is their motto.

They are akin to the Vigilantes of old, these 1,500 Volunteer Fire Wardens. For, recalling how Montanans organized in early days to defend their mineral resources and protect their property from road agents, high-graders and sluice-box raiders, Governor Erickson has included in their ranks some of the most responsible and level-headed men of the State; men who are continuously traveling the forest highways and trails, keen-eyed determined men. Aroused and armed with authority, they will brook neither carelessness nor maliciousness with fire in Montana's forest empire.

Nor has preparation and coordination been neglected. Careful and painstaking analyses of local conditions have been made. Risks have been identified. State, private and federal forces have combined. A central clearing house for the immediate interchange of men, resources and special information has been set up. Fifty or more experienced woodsmen, trained and detailed to follow clues, have taken their stations and are ready for instant action.

Working with the "Vigilante Volunteers" is every district attorney, every judge, every justice of the peace within the forested portion of Montana. Each has received, as result of a personal interview, the Governor's demand for law enforcement; each is ready, and waiting, for what the summer may bring.

A similar situation exists in Idaho where Governor C. Ben Ross has determined to halt that carelessness and incendiarism which made necessary, last year, declaration of martial law and use of State militia before the hundreds of forest fires might be subdued. In Idaho, as in Montana, the Governor leads the way. For "Ben" Ross—as the Chief Executive is affectionately called—has enlisted in the cause, has himself signed the pledge and accepted an appointment which automatically places him at the head of his State's "Vigilante Volunteers."

Will they be needed in Idaho as well as in Montana?

Let me paint for you a picture of actual conditions in 1931. And, lest you doubt my word, I shall quote from a report prepared after years of experience—and as a result of cool, calm and collected analysis—for an organization of hard-headed business men who feel that their State stands with its back to the wall fighting, perhaps, for its very existence.

Speaking of incendiarism in 1931, this report says, in part: "We were troubled with more incendiarism this year than ever before. . . . Fires were set . . . by short-sighted, ignorant and unscrupulous criminals, some of whom are undoubtedly residents of this district. . . . Approximately 85 per cent of the area burned over, 90 per cent of the merchantable timber killed, 98 per cent of all other damages sustained . . . also the life of one man—are the direct result of incendiarism."

"It is very evident that if we are to survive much longer under existing conditions, much more attention must be directed toward better law enforcement and the elimination of the incendiary."

Evident, is it not, that there is a menace, that it is serious, that it does take on the proportions of a crisis. But it will be met by 3,000 Vigilantes under Governors Ross and Erickson, by the district attorneys, the judges, the justices of the peace; in State courts and in Federal courts.

And unless human nature changes, unless carefulness is

substituted for carelessness with fire in the forests of Idaho and Montana, many a camper who leaves his fire for the day, many a smoker who flips lighted cigarette or cigar, will see the inside of a jail during the summer of 1932. For the careless camper, the foolish fisherman and the senseless smoker sets more fires, by far, than does the iniquitous incendiary. And the watchful Vigilante is waiting.

Waiting, too, are lookouts and smokechasers. Their ranks have been thinned but little. By and large, these men are not among the 1,200 who have sought in vain for their regular jobs on the National Forests of Montana and north Idaho; who have, by force of necessity for balancing the national budget, joined the ever-swelling army of the unemployed.

For lookout and smokechaser constitute the eyes and the shock troops for the forested West. Without lookouts few, if any, fires can be discovered in time. Without the hardy smokechaser there is little opportunity to catch any fire while it is still small.

What results may be expected? It is best to look at what was accomplished last summer by E. W. Renshaw, district ranger on the St. Joe National Forest, in northern Idaho. This experience should be an index of what can be accomplished, with public indignation aroused, during the present season. Here is Ranger Renshaw's own account:

"During the season of 1931 definite, determined action was planned against each and every violator of our State and federal fire laws. Orders were issued to the effect that no offense, no matter how trivial, was to be ignored. The results of this campaign were the arrest of nineteen persons for a total of eleven cases. The Forest Service secured convictions on ten of these cases and the other is still pending."

"It is interesting to note the variety of offenses for which parties were convicted—(1) Building campfire without permit upon designated closed area. (2) Smoking on designated closed area. (3) Building a campfire in an unsafe place. (4) Leaving campfire unattended. (5) Smoker fire, and (6) failure to completely extinguish campfire. We had no incendiary fires."

"Prior to the season an interview was had with the prosecuting attorney. This official promised full support to all cases, and it was largely through his interest and sympathy with the movement that convictions were secured in every case that he tried."

"The permit system was used throughout. By its use, two cases were brought to trial after parties had left the forest and the county. An auto patrolman made almost daily trips over all roads. Every camper was required to produce his permit and show his shovel, ax and bucket. This same patrolman apprehended thirteen of the violators and did it in a way that in no case were there hard feelings. We are fortunate in securing his services for the coming season—Congress willing!"

If one ranger and one patrolman, on their own initiative and in one small territory, can make nineteen arrests and secure convictions in every case but one, surely 1,500 Vigilante Volunteers, with efforts closely co-ordinated, can accomplish much.

Education has had its value in lowering the damage which results from man-caused fires. It has its value still. But beginning with 1932 education will take on added significance with the realization that fire laws have teeth, that public indignation is aroused, that the forces of law and order are up in arms, that examples will be made of every careless camper, foolish fisherman, senseless smoker and iniquitous incendiary who appears in the western Forests.





—National Park Service

Reconstructed Wakefield—now the George Washington Birthplace National Monument—in Westmoreland County, Virginia. The kitchen is on the left, the old well house in the center, and the mansion on the right.

THE NATION'S WAKEFIELD

The Birthplace of George Washington Becomes a National Shrine

By HORACE M. ALBRIGHT

AT LAST, two hundred years after the event which now makes it famous, the birthplace of Washington, rehabilitated and restored along colonial lines, has passed into the full ownership of the United States. As the George Washington Birthplace National Monument, Wakefield is assured of perpetual care and public ownership.

On February 11, 1732—February 22 under the new calendar—the infant George Washington, our most illustrious American, was born. On May 14, 1932, the Wakefield National Memorial Association formally turned over to the Secretary of the Interior, on behalf of the people of the United States, complete jurisdiction over Wakefield.

The happenings of the intervening two hundred years are of interest. The Washington homestead at Wakefield, in which George Washington lived for about six of the first sixteen years of his life, burned down in 1780, on Christmas Day. The family never rebuilt, and such of the foundations as protruded here and there gradually disappeared, through weathering and by the removal of bricks as souvenirs by those strange vandals who destroy interesting objects simply because they are interesting.

The estate remained in the ownership of the Washington family until 1813, when George Corbin Washington sold nearly 1,400 acres. When making this sale he reserved a

tract sixty feet square inclosing the foundations of the old birthhouse, and also the family burying ground. Two years later George Washington Custis, grandson of Martha Washington, placed a stone marker on the site of the birthplace. About the middle of the century Lewis W. Washington, to whom the reservations had descended from his father, George Corbin Washington, presented these two historic tracts to the State of Virginia and they were accepted by the State Assembly in 1858, with the condition that they were to be suitably marked and protected. Unfortunately, these conditions were not fulfilled, through lack of public interest in the historic old place as well as through lack of funds, and the lands reverted to Lewis W. Washington. Weeds and brambles covered the site of the old house and the family burial plot.

In 1881, Congress appropriated funds to build a monument to mark the birthplace, and the heirs of Lewis W. Washington, in 1882, with the acquiescence of the State of Virginia, conveyed the lands about the birthsite to the United States. Two years later the Federal Government added eleven acres surrounding this site to its Wakefield holdings. In 1896 the monument was erected. This monument, moved from its first location to permit the building of the colonial house on the old foundations, stands like

a sentinel at the entrance to the George Washington Birthplace National Monument, guarding the sacred shrine.

After the erection of this granite shaft, more than a quarter of a century elapsed with but few of the millions of Washington's admirers being aware that Wakefield was his birthplace.

Then the Wakefield National Memorial Association was formed in 1923, and the period of oblivion for Wakefield ended. The members of this association, under the leadership of the late Josephine Wheelwright Rust, herself a descendant of the Washington family, set about to make Americans Wakefield conscious. So well did they succeed that today the George Washington Birthplace National Monument, under the control of the National Park Service of the Department of the Interior, is an area of nearly 400 acres, all old Washington holdings. A typical house of the Queen Anne period stands on the site of the old mansion house, following the old foundations as closely as possible and based on studies of old houses of the period and of the old documents and records that were available, including recorded deeds and inventories.

Even the bricks used in the new house are identical in size, material, and type of workmanship with those used in the original birth-house. Using bricks from the old foundations as samples, and importing from the Carolinas a brick-making crew that worked by hand, large hand-made bricks were made on the ground, from the native Wakefield clay.

The house is now being furnished by the Wakefield National Memorial Association with authentic early American furniture. Already the first floor is nearly furnished, and the association plans to continue this work, obtaining where possible old Washington pieces, or period furniture in keeping with the history of the estate.

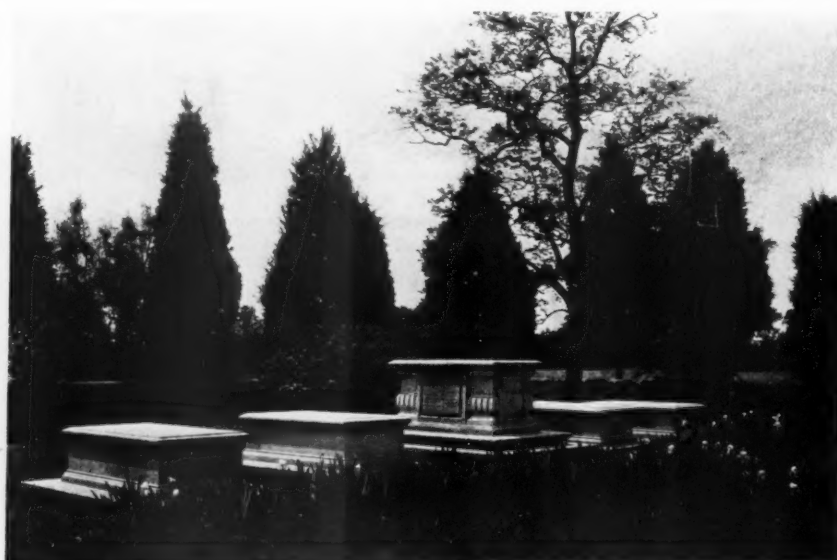
To the right of the house as one faces Pope's Creek, a colonial garden has been worked out, with old-fashioned sundial, box transplanted from gardens in the vicinity, and a colonial white picket fence. In back of the house—which means nearest the highway—are an old hackberry tree and some fig trees, believed to have been growing there in George Washington's time. Back of the house, also, is the rebuilt outdoor kitchen of clapboard, with great brick fireplaces and chimneys.

It would be hard to find a lovelier site for the old house than the elevated point on which it stands, overlooking Pope's Creek where it flows into the Potomac. The broad expanse of waters in view from the front doorway and the hundreds of trees that surround the mansion layout give an air of that peace and restfulness associated with the lives of our landed proprietors of the eighteenth century.

When, on this past May 14, the formal dedication took place, the ladies of Westmoreland County, most of them descendants of the Washington family and of other historic old families, brought forth from their treasure chests quaint costumes of two hundred years ago. Donning these, and with them the white wigs and stately manners of Colonial days, they seemed to turn back the hands of time to that long-ago period when the child George was at Wakefield. Adding color to the picture were the Monticello Guards, dressed in uniforms like those worn by some of the soldiers who later, under the leadership of that child grown man, helped establish the principles of liberty in America.

Much as the restoration of the mansion house and grounds means to Americans, perhaps even more important is the rescue from obliteration of the family burial plot, containing the graves of thirty-one of Washington's ancestors and contemporary relatives. Among them are his father, grandfather, and great-grandfather, the latter that Colonel John Washington who established the Washingtons in Westmoreland County.

When rehabilitation work at the George Washington Birthplace National Monument was undertaken, the burial plot was in a sad state of disrepair. Through a long period of neglect it had become a tangle of brambles and poison ivy, its stones broken and the entity of the separate graves outside the main vault lost. Despite the action of the Colonial Dames of Virginia in plac-



The burial grounds of the ancestors of George Washington at Wakefield, as reconstructed. When rehabilitation was undertaken, this sacred area of seventy square feet was in a sad state of disrepair.

ing a fence around the graveyard, relic hunters gained access and even carried away the broken pieces of the headstones.

Now the remains of the Washingtons in this little plot rest in dignified peace, in harmony with their mode of living and in accordance with the respect in which the country holds their memory. Carefully, reverently, the ground outside the old vault was explored and all bodies reinterred and sealed in the rebuilt vault, the top of which lies about a foot below the ground surface. Above it are five tablestones inscribed to members of the Washington family. Myrtle and ivy replace the brambles and poison ivy. The burial plot, an area seventy feet square, has been inclosed by a wall of hand-made brick, with iron gates. A gravel path leads to it from the highway, lined with transplanted cedars and many varieties of shrubs and plants.

In closing, I want to emphasize the great debt of gratitude which the people of the nation owe to the Wakefield National Memorial Association. The Congress of the United States recognized this debt when, in establishing the George Washington Birthplace National Monument, it appropriated a fund of \$80,000 to be used in (Continued on page 426)

A FOREST EMERGENCY

Statement of George D. Pratt, President of The American Forestry Association,
to The Timber Conservation Board at Its Meeting on June 8.

THE Timber Conservation Board was created by President Hoover to propose measures to aid in the stabilization of the forest industries and the ownership of forest land, and to assure the perpetuation of the country's forest resources. All the more important and long standing economic problems involving public interests in forest conservation have been studied. Since the Board began its labors, however, the general economic situation of the nation has become so acute that in my judgment the Board is today confronted with an emergency situation that it cannot ignore. I refer to the gradual disintegration of forest protection that has already set in and that threatens to expose to incalculable destruction the very resource the Board is charged with perpetuating.

We cannot evade the fact that a curtailment of forest activities along all lines both public and private is taking place and that due to the depletion of public and private funds the protection of our forest resources against fire, insects, disease, and other natural enemies is being seriously weakened. The Federal Government and the states are being forced to economize on forest protection. Owners of private lands, driven by financial conditions beyond their control, are likewise curtailing or abandoning adequate protection of their resources. We are confronted with a breakdown in our whole established system of resource protection. If the process is permitted to continue, it will lay wide open to destruction forests and other renewable resources that are the very foundation of industrial stability and public welfare. It exposes to loss not only our forest assets, but virtually all the complementary values inherent in stable forest land administration, such as forage, wild life, soil fertility, scenic beauty, water supply, and the beneficial influences of forests upon flood and erosion. This situation has become acute in many sections of the country, particularly in the South and the Northwest. The Governors of Idaho and Montana, for example, deem the outlook for the coming summer so critical as to warrant the issuance of proclamations calling upon their citizens for voluntary service to help protect the natural resources of their states. Destruction of forests and other renewable resources in the South during the past winter as a result of fires has been the greatest on record.

To my mind adequate protection of our forest wealth through this trying and dangerous period of economic chaos is the great outstanding challenge today to conservation stability. As a nation we must see our way through the present storm without throwing protection to the winds and giving fire a free run upon the bank of nature. I desire to urge with all possible emphasis that the Timber Conservation Board give this situation its earnest consideration and that it give vigorous expression to the need of incorporating adequate protection of our forests and other renewable resources as a definite and urgent project in national and state programs of reconstruction.

From a purely social standpoint, the situation merits emphasis. The forest industries as a group are a source of employment next in importance to agriculture. Unemployment throughout the forest industries is now widespread and alarming. If the resources upon which these industries are dependent are permitted to be depleted and destroyed by a

breakdown in protective systems, where shall these millions of dependents turn for a livelihood when more normal conditions of industry and trade are restored? In my opinion, American statesmanship today in its effort to lift our country out of its distress is failing to give proper recognition to the social and economic importance of protecting and maintaining the integrity of our forest assets during this period of forced economic readjustment.

Within recent weeks we have heard much of reconstruction programs to relieve unemployment and to start the wheels of industry. Various suggestions of public works calling for federal appropriations and federal loans have been proposed. Wisely and soundly, I believe, President Hoover has pointed out that such proposals if they are really to be helpful must distinguish between public works that are income producing or self-liquidating and public works which are non-productive and which, therefore, place a charge upon the tax-payer and upon the federal budget.

The protection of our forest resources against fire and other destructive agencies is, to my mind, clearly an income producing and self-liquidating project. It should qualify under the operation of the Finance Corporation just as much as protection of our banking institutions, for in the last analysis these institutions are dependent upon the natural wealth of the communities and states which they serve. As one of his relief proposals, President Hoover suggests a broadening of the authority of the Finance Corporation so as to authorize it to loan up to \$300,000,000 to states in order to finance themselves through the period of distress. I believe it would be a wise and sound policy for the states and subdivisions thereof and for private owners to borrow money through the Finance Corporation to protect their forest assets and that it would be a wise policy for the Federal Government to loan money through the Finance Corporation for this purpose.

The possible field of activities is a large and constructive one. It would include (1) necessary protection of private and public resources against fire, insects, and disease; (2) enlarged forest planting in those regions of the country where there is now a shortage of forest supply and where expansion of forest cover for watershed influence is merited by public and industrial considerations; (3) cooperation of Federal Government, states, and private individuals in works to control soil erosion and to maintain the flow and purity of our inland waters particularly at the headwaters of streams, and (4) an expansion of forest research along those lines that will aid protection and the stabilization of the forest employing industries.

As an illustration of the diverse possibilities for constructive endeavor, the National Forests as a 160,000,000-acre forest property may be cited. Adequate protection of these public forests from fire alone calls for the construction of several thousands of miles of forest roads and trails, hundreds of lookout towers, thousands of miles of telephone line, networks of fire breaks, etc. Adequate protection also calls for the control of tree diseases and insect pests such as the white pine blister rust, bark borers, and leaf miners. In addition to the direct labor involved, the equipment, supplies, and material called for (Continuing on page 412)

The Improvement of Trout Streams

What Michigan Is Doing to Shorten the Time Between Bites

By CARL L. HUBBS

VERY little has been done in America in the way of improving our trout streams. All trout fishermen are familiar with sections of streams that are not worth fishing, because there are no good pools in which trout can live. Men who know their streams take short-cuts across bends, passing by the fishless stretches. If all the energy spent in the long treks between pools could be devoted to the improvement of the water that is skipped, trout fishing would bear less resemblance to golf. Do you care for long walks after you reach your trout stream? Or would you rather spend more time in actual fishing? Less distance between pools means "less time between bites"—the ideal which President Hoover has set for us.

There are four means of improving trout streams and thereby conserving and up-building trout fishing. First, trout may be introduced into waters in which they are not native. This has been done in Michigan, with great success from the standpoint of trout fishing. The most famous brook trout streams of the state, such as the Pere Marquette, Manistee, Boardman, Au Sable, Au Gres, Rifle, were devoid of trout within the memory of old lumbermen and settlers still living. They contained no trout until they were introduced in the seventies and eighties. And of course the rainbow trout, native to our Pacific Coast, and the brown trout, native to Europe, were introduced. This first, simple method of improving trout streams, or rather making trout streams, has been carried well toward its limit in Michigan, for trout of some species occur in nearly every stream in the state capable of supporting trout life.

Second, trout conditions may be improved by giving protection to the trout during the breeding season and in nursery waters. Third, the

This is the first of two articles dealing with the work of the Institute for Fisheries Research of the University of Michigan, in the improvement of trout waters by the establishment of environment attractive to trout. The second article by Dr. John R. Greeley and Mr. Clarence M. Tarzwell of the Institute will appear in an early issue and will present in more detail the methods being used on Michigan streams and the experience gained to date.—Editor.

hatchery and rearing-station operations are an important means of adding to these stocks. The diligence with which these two methods of trout improvement have been developed and expanded by the Michigan State Department of Conservation is reflected in the relatively satisfactory condition of trout fishing at the present time, following years of very

trout supply may be maintained in large part by giving protection to the eggs and fry by methods of fish culture. With intense fishing, regulatory measures are necessary, to prevent serious depletion of the stock, and

heavy catches. But it becomes increasingly difficult each year, to conserve the trout supply, that is, to hold it on a level. If much progress is to be made beyond mere conservation in actually increasing the trout supply in the face of ever growing depletion, we must turn our attention to the improvement of living conditions for the trout.

Thus we come to the fourth method of adding to the trout supply, and the one which is most truly and specifically the improvement of trout streams. Neither introduction, nor protection, nor stocking, can grow fish. To do this a suitable environment is required. Without proper environments, our game fish must dwindle or disappear. The requisite conditions are: adequate spawning beds; enough shelter; sufficient food. The improvement of trout waters by environmental control is the main point of this article.

Although it is very apparent that the basic principle of environmental control is sound in theory, very little practical application of this principle has been seen in this country. It has long been recognized in Great Britain that many steps could be taken to improve existing conditions in trout waters. A large fund of practical experience has been built up during generations of attention to streams by their



Little Beaver Creek, in Osceola County, Michigan, is a good example of a trout stream with natural cover.

keepers or owners. Several excellent books dealing with stream improvement have been published in Great Britain, notably the books of Malloch, Armistead, Mottram and Platt.

In Michigan and surrounding regions, we in our pioneer efforts may well consider facts learned from the longer experience of others. At the same time, we must bear in mind that our streams are mostly very different from those of other countries. The majority of British streams are under an intensive system of private control, which allows the employment of some methods which are not practical in the vast lengths of our public water. Moreover, our climate creates great danger from high water temperatures, an important point to consider in planning our stream improvement methods. The climate of the British Isles makes it possible for streams there to be more exposed to the sun than ours can safely be.

In a recent work, *"Better Trout Streams,"* Mr. Hewitt has given excellent attention to some problems of environmental control in American streams. Many good ideas have been put in practice on streams controlled by that author. On the other hand, some of the methods which are successfully employed on these streams, located in the Catskill region of New York State, are not applicable to the usual Michigan conditions. Successful work in our waters depends upon the adoption of methods which are successfully used elsewhere, but only after we make sure that these are suited to the needs of the streams to which they are to be applied. It is sometimes necessary to devise new means to accomplish certain purposes in our waters.

The Michigan Department of Conservation has been trying out methods of trout stream improvement for several years. Particular attention has been given to the problem of providing cover, or shelter for trout. Dr. Jan Metzelaar began studies of the "re-snagging" of streams several years ago and many of the log shelters which he built have created good trout pools and have remained solidly in place. With the creation of the Institute for Fisheries Research, early in 1930, plans were made for the expansion of this field of investigation. Mr. Clarence M. Tarzwell, who holds a fellowship under the Institute, has devoted two seasons' work to the experimental improvement of trout streams by the introduction of pool-producing devices, and shelters. Since stone as well as log work is being employed, the term "re-snagging" which has been somewhat used, is hardly a good word for this type of work.

In 1930, by means of an appropriation for an improvement project on the Little Manistee River, the Department of Conservation made possible the first really large-scale work that has been undertaken in the waters of the state; probably the first in any of the public waters of the country. Through the cooperation of conservation officers, a crew of three men, experienced in handling logs, was secured. The planning and study of the methods and effects of the improvement work was done by the Institute. During 1931, the Department, in connection with the Pigeon River Forest (Continuing on page 430)



Good natural cover is also provided at Baldwin Creek, in Lake County, Michigan. Streams where this is lacking, can be improved by intelligently applied modern methods.



A current deflector installed in Pigeon River in the course of the stream improvement investigative work in Michigan. Note the great speeding up of the current and additional cover lodged on the barrier. Clarence Tarzwell, in charge of this work, is standing on a bar behind the barrier.



A splendid trout hole has been added to the stream by the installation of a deflector on the Pigeon River. Note the apparent depth of the hole dug by the artificially deflected current.

Conference Features Nation's Water Resources

57th Annual Meeting of The American Forestry Association Focuses Public Attention on the Watershed and Watershed Influences

VOICING the sentiment of thousands of forest conservationists in America, members and delegates attending the 57th Annual Meeting of The American Forestry Association, held jointly with The Maryland Forestry Association at Baltimore, May 26 and 27, urged that a project for the improvement and protection of the forest resources of the country be included in any national program for unemployment relief. In adopting a resolution to this effect the conservationists maintained that in view of the growing shortage of protection funds such a project is essential to the preservation of forests and other renewable resources. "American statesman-

ship is failing to give due recognition to our natural assets during the period of forced economic readjustment with which the world is confronted," declared George D. Pratt, President of The American Forestry Association, in addressing the session. "I am concerned on two accounts—first, that political expediency will force a reconstruction in which sound and adequate management of our natural resources will be woefully lacking, and second, that conservation

progress achieved during the past quarter century may succumb to disruption. That will be nothing short of national disaster. In the present conflict of political thought and group doctrines, protection of our national resources seems conspicuous mainly by its absence. The dangers are very real."

He pointed out that in the field of public and commercial forestry the nation is confronted with a curtailment of activities all along the line. The forest industries are in a state of chaos, he said, and owners of forest resources are being forced to liquidate and to abandon the protection of their

forest lands and in many instances to turn their lands back to counties and states in lieu of taxes.

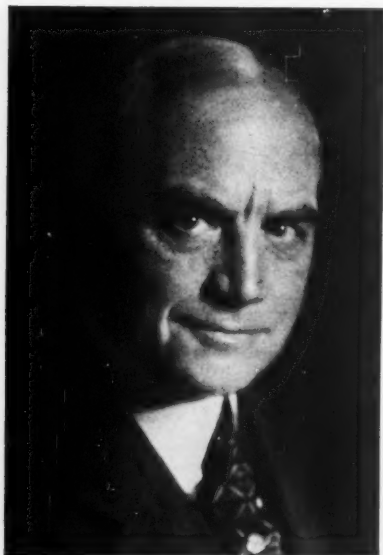
"I hold that protection of our natural resources against fire is an income producing and a self-liquidating project," he said. "To my mind it qualifies under the operation of the Finance Corporation just as much as does protection of our banking institutions, for in the last analysis these institutions are dependent upon the natural wealth of the communities and states which they serve. I hold that it would be a wise policy for the states to borrow money of the Finance Corporation to protect their natural resources and that it would be a wise policy for the Federal Government to loan money through the Finance Corporation to the states for this purpose."

Such a project, Mr. Pratt declared, would employ great numbers of men while giving adequate protection to the natural wealth of the country; would strengthen the foundation of agriculture and preserve the soil against erosion; would help stabilize land ownership, and would preserve the country's recreational lands as well as provide protection of the water resources.

Bonds issued by the state, backed by the state's natural resources adequately protected, should appeal to the investing public, Mr. Pratt declared.

Focusing public attention upon the watershed and watershed influences, the meeting brought out many constructive approaches to the water problems, particularly as related to forests and forest conservation, with which the nation, states, communities and individuals are confronted.

Members of the two associations and representatives from nearly every section of the country, heard Arthur M. Hyde,



George D. Pratt, President,
The American Forestry Association.



J. Harris Franklin, President,
The Maryland Forestry Association.

Secretary of the United States Department of Agriculture, term erosion as "merely the first cost this country is paying for ruthless, unthinking exploitation of its land resources," and recommend as a means of preventing this damage to the soil the extension of a forest policy, the discontinuation of over-cultivation and overgrazing of lands and the alteration of the cultural methods in farming.

They heard E. I. Kotok, Director of the California Forest Experiment Station, place the blame of much of the country's soil erosion to the destruction of forests, particularly the clean cutting and burning of these lands. They also heard Reed W. Bailey, of the Utah State Agricultural College, declare that accelerated erosion and floods constitute a problem of growing concern.

N. G. Grover, Chief Hydraulic Engineer of the United States Geological Survey, pointed to the maintenance of the essential purity of the rivers that flow through populous regions as one of the greatest and most important fields for effective conservation.

Speaking on governmental approaches to water conservation, W. S. Conant, of the Water Resources Committee, American Engineering Council, declared that effective control of water resources must ultimately be achieved by means of prepared legislation—federal and state—of such character as will define mutual rights and functions and will not be liable to disqualifications by the courts. Samuel S. Wyer, of the Fuel-Power-Transportation Educational Foundation, called for a readjustment of land taxation and land owning programs so that the unused lands could go back into forests, particularly for watershed purposes.

Henry O'Malley, Chief of the United States Bureau of Fisheries, and Paul G. Redington, Chief of the United States Biological Survey, presented the fish and waterfowl side of the country's water resources. The problem of fish life in the inland waterways, Mr. O'Malley said, goes back to the trees standing in the forests. These forests, he pointed out, are an assurance of an abundant water supply. Mr. Redington declared that the existence of many species of native waterfowl is now seriously threatened, and attributed this to the lack of adequate water areas.

"Once the few fundamental facts about erosion are understood," Secretary Hyde said, "the remedies become perfectly clear. The situation is simply this: there is only one fundamental way to control navigation and regularity of streams, to protect fish, and to

maintain normal climatic conditions and abundant crops, and that is by retaining in the ground itself as much as possible of the precipitation falling on the ground, and by retaining as much as possible its run-off from the surface of the soil."

Mr. Hyde had previously pointed out that 21,000,000 acres of farm land in the country have gone out of cultivation because of destructive erosion. This impoverishment, he claimed, is due to the burning and cutting of forests, overgrazing and overcultivation. "The capacity of the soil to absorb and retain water depends in considerable measure upon the presence of humus organic matter in the soil," he explained. "If a forest is cut off and burned, if a field is allowed to lose its topsoil and the contained organic matter, the absorptive capacity of the soil is reduced."

Much of this damage to the soil and the water supply can be prevented, the Secretary declared. "We can alter cultural methods in farming as to increase percolation of water into the soil, returning to the soil every available bit of organic matter, terracing and strip-cropping to impede the rate of run-off. Gully-eroding can be prevented by soil-saving dams. Cultivation on slopes

above a given steepness can be suspended. Pastures too steep to be grazed without erosion can be converted into woodlots, or at least allowed to have a rest from too intensive grazing. We can make it a matter of general policy to

discourage the cultivation or overgrazing of lands too steep to escape erosion except when protected by a cover of vegetation. It may be wise to develop our National Forest policy to provide for maintenance of a dense forest or grass cover on critical watersheds, having regional or national importance. When state and national finances permit, it may be wise to extend our forest policy to cover soils subject to excessive erosion. Similarly, grazing must be regulated on the western ranges of our remaining Public Domain in order to prevent disastrous erosion."

The Secretary pointed out that seventy-five per cent of all land in cultivation is now subject to erosion in some degree, commenting that "there is neither economic profit nor social wisdom in permitting our land resources to be heedlessly destroyed, regardless of whether

our land supply is scarce or abundant."

He declared that erosion strikes at the vitals of civilization. "In the permanent improvement of waterways and water supply, in the conservation of soil resources, in our attempts



Hon. Arthur M. Hyde
Secretary of Agriculture

THE WHITE HOUSE WASHINGTON

May 25, 1932

My dear Mr. Pratt:

I will be obliged if you will express my cordial greetings to the American Forestry Association at their banquet in Baltimore tomorrow evening, and my regrets that I cannot be present. I trust that they will have a most inspiring gathering in service of the great national interest of Conservation, in which they so helpfully cooperate.

Yours faithfully,

HERBERT HOOVER

Mr. George D. Pratt, President,
The American Forestry Association,
1727 K Street, N. W.,
Washington, D. C.

to achieve a balanced agricultural production, and to maintain an industrial civilization, our efforts must begin on the land. It is for this reason that a sound national policy of land utilization—of which erosion is a vital part—is so basic to a solution of our major agricultural problems.

"There are those no doubt who think of forestry as primarily a conservation program designed to protect our forests as a source of wood supply. Even from this standpoint forestry is amply justified. But forestry has a vastly wider meaning, and a much larger importance when considered as a part of a broader program for the conservation and wise use of the landed estate of the nation."

Among the great natural resources which so largely contribute to the national welfare, water must always have a prominent place, said Mr. Grover. Speaking on the subject "Water as a National Asset," he said: "Water is a necessity for plant and animal life; it is important, as a means of transportation by navigation; it is essential to the production of power; and it is needed for process uses in many industries." Whether it is flowing in liquid form over the surface of the earth and through the ground, or flowing as vapor and mist in the atmosphere, water is generally in motion, he said, and upon this motion its availability as well as its value largely depends. "Without this movement the supply of water in wells would soon be exhausted. There would be no flowing springs, and stagnation with its disagreeable and deadening aspects would prevail."

Speaking of stream pollution—the disposal of wastes of many kinds into the water—Mr. Grover said: "There is no adequate reason for allowing rivers naturally so attractive to become foul and offensive as the result of pollution. One of the greatest and most important fields for effective conservation lies in the maintenance of the essential purity of the rivers that flow through populous regions. The complications and expense involved in the prevention of pollution do not remove the necessity for this conservation. The remedy does not lie," he said, "in prohibiting all utilitarian uses of rivers, but in the prevention of pollution."

On the subject "America's Water Problem and Its Social Significance," Mr. Wyer held that "In our water thinking we have had more 'tacit assumptions' and 'dogmatic statements' and less of 'fact finding, fact recording and fact facing' than in any other resource problem. This," he said, "accounts for the wide gap between current beliefs and obvious facts. A part of this gap," he stated, "is due to defective text books. Contrary to what many text books teach, the circulation of water on the earth surface is not between the land and the ocean, but chiefly between the heavens and the earth."

Touching on water and land economics, Mr. Wyer said: "Students of land economics agree that we must abandon much of the land which we are today trying to farm and the intelligent thing will be to revamp our taxation and land owning program so that this unused land can go back into forests. This will rearrange the rural school program and greatly curtail the need of rural roads because much of our rural road program has been for the benefit of selfish business groups without any regard to its social significance."

The ancient Egyptians, said Mr. Wyer, showed more intelligence in coping with their water problems than the present civilization. "No Egyptian could pollute the water without committing an offense which not only sub-

jected him to punishment under the civil code but made him subject to condemnation when the God of the Lower World should pass judgment upon his soul." S. B. Shaw, Regional Forester for California, United States Forest Service, read a paper on the "West's Dependency Upon Watershed Management" for George P. Clements, Manager of the Agricultural Department of the Los Angeles, California, Chamber of Commerce, who was unable to attend.

"Water is precious over all the West," Mr. Clements declared "but with us in the Pacific Southwest and Mountain States it is life itself—and without price."

"Water, not land, is the determining factor in California," he stated, pointing out that it "required ninety-five per cent of the State's surface to furnish water for the five per cent which represents the economic development in agriculture,



Scout William Brooke, of Cumberland, Maryland, who was awarded The American Forestry Association medal for his State for his fire prevention poster.



Dr. Raymond A. Pearson



Mrs. John F. Sippel



Samuel S. Wyer



Malcolm Pirnie



Paul G. Redington



Reed W. Bailey



Philip W. Ayres



E. I. Kotok

industry and commerce. "The husbanding and harvesting of this rain crop is therefore California's greatest responsibility. The forest and brushclad watersheds are our most sacred possessions, our most precious heritage."

California, he said, has expended millions of dollars in the necessary storage and control of her waters. Much of this expenditure, he pointed out, has been made necessary through the depletion of the State's watersheds. "All of this expenditure will be wasted effort unless the health of these watersheds is maintained. Erosion—due to disastrous fires and resulting floods—has already filled many reservoirs, destroying their utility, inundating thousands of acres of agricultural lands, rendering them worthless."

Mr. Clements concluded his paper by asking for the nationalization of the watersheds of the nation. He suggested that this be done through the United States Department of Agriculture as "no other government department is concerned in conservation, and no other government department has the organization to care for it."

On the subject "The Growing Demand of Urban Population Upon Eastern Water Sources," Malcolm Pirnie, a consulting engineer of New York, asked the members and delegates to accept a public works construction program of the American Society of Engineers. This program, conceived to stimulate trade recovery and revive employment, would develop municipal utilities such as waterworks, power systems and waterway construction.

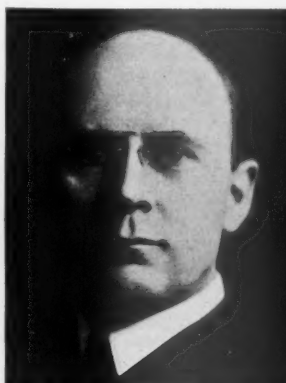
With R. Y. Stuart, Chief Forester of the United States, presiding, Secretary Hyde opened the afternoon session. Following him and speaking on the subject, "The Role of Forests and Cover in Water Conservation," E. I. Kotok said

erosion is costing American farmers at least \$200,000,000 annually in loss of plant food.

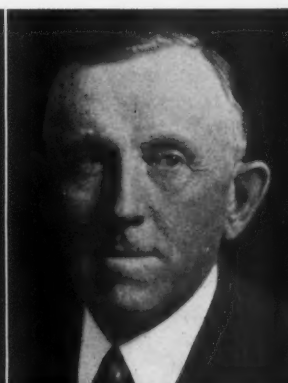
A series of experiments in California, he declared, have amply illustrated the effect of the removal of forest and brush cover on erosion processes. "They have shown conclusively that the removal of forest cover by fire invariably increases the surface run-off of water from fifteen to twenty times more than from the undisturbed areas," he said. "Further, the undisturbed areas showed the barest traces of eroded material, whereas four cubic yards an acre of top soil was lost during one rainy season from burned areas. It was also found that while light rains may not start erosion, rains reaching intensities of one inch an hour, even if only of a few minutes' duration, develop immediate excessive run-off and erosion."

These experiments, he said, conclusively prove that for California fire is the chief contributing factor to floods in its main river drainages and to the silting of its navigable streams and harbors. Other experiments of utmost significance, he said, have proved the true value of the forest litter and the function it performs under forest conditions. When subjected to natural and artificial rains the area with the litter cover burned off showed sixteen times the surface run-off that was found from the plots with their litter cover undisturbed; and that the eroded material was 2,300 times as great from the burned plots as compared with the unburned.

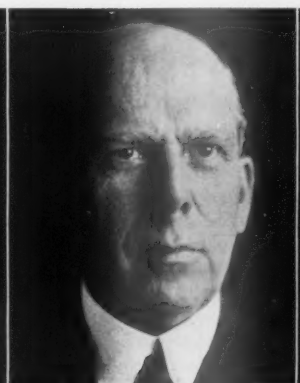
"These experiments," said Mr. Kotok, "all confirm one of the most important premises on which conservationists base the need for a national program of forestry, namely, that the removal or destruction of the vegetation mantle exposes the land surfaces to the full forces of erosion by reducing the



W. S. Conant



Senator W. T. Bulow



N. G. Grover



Henry O'Malley

absorptive capacity of the soil and by increasing surface run-off, thus accelerating the process of erosion and intensifying floods.

"While fire is the outstanding destructive force on forest lands, particularly if it follows clear cutting of the forest, unregulated grazing of livestock, slowly but progressively reducing the herbaceous vegetation on range and forest land, is another destructive force which contributes to the acceleration of erosive processes, increasing of run-off and the peaking of floods. Agricultural development on marginal farm lands further contributes to this serious problem of erosion and run-off.

"Conservationists must recognize that after a quarter century of effort they have a long way to go in keeping our forest values intact. Forest conservation for timber supplies should not be considered as the major end of forestry, but instead the maintenance of a forest cover. Regardless of timber values the cover itself is the keystone of conservation."

Reed W. Bailey illustrated his paper on "Geological Evidence of Erosion's Speeding-Up Process" with a series of interesting lantern slides. Floods and accelerated erosion constitute a problem of growing concern in many parts of Utah and the Intermountain Region, he said. Geologists and other observers have been impressed, he brought out, with apparently recent channelling in previously well aggraded valleys in that region. Farm lands along these valley flats have been eroded away and several settlements have been abandoned. Both geological study and historical records assigned the channelling to recent years—actually since the time of settlement. This, said Mr. Bailey, has been attributed to disatrophism, climatic change and depletion of plant cover by fires and overgrazing.

"Under climatic conditions of the Intermountain Region," he said, "the maintenance of soil and vegetation on the steep mountain slopes constitutes a delicate balance. For ages accumulation of rock waste and soil has exceeded their removal, and has been accompanied by development of plant cover. This balance has been maintained for thousands of years. It has been broken in certain canyons by depletion of plant cover and litter even on small areas, which made possible the gathering of destructive flood water. These floods constitute a greatly accelerated rate of erosion."

Opening the sessions the second day, with J. Harris Franklin, President of The Maryland Forestry Association, presiding, W. S. Conant, of the Water Resources Committee of the American Engineering Council, declared that the effective control of water resources must ultimately be achieved by means of prepared legislation—federal and state—of such character as will define mutual rights and functions and will not be liable to disqualification by the courts.

"Legislation of this nature," he said, "should be supported which will provide necessary machinery to regulate the flow of streams for the avoidance of extremes—low water which will interfere with navigation and high water which will increase the menace of floods."

The control of water goes back to the drainage basin, he stated. "The ideal control of water in any drainage basin is that which permits the maximum hydro-electric output consistent with the equally necessary priorities for domestic and municipal water supply and sanitation, as well as for food production through irrigation. It should also permit a control which allows for the practical needs of stream navigation and for the occasional demands of flood protection against loss of life and property anywhere at lower levels. The element of recreation in the open and of the development and maintenance of natural beauty is a matter of growing importance. Over an increasing area scenic beauty is actually worth more in real estate than in fertility."

This control of large drainage basins, he said, involves

the participation of the Federal Government, either through some form of planning commission or through the legal extension of present prerogatives. He believes that the ideal solution from an operative standpoint is found in complete federal control.

On the subject of "State Forests As Capital Investment in Water Conservation," Mrs. John F. Sippel, President of the General Federation of Women's Clubs, told of the planting of millions of trees by private companies in New York State to aid in perpetuating that State's water supply. She also pointed out the benefit of water to the recreational development of the states with particular emphasis to state parks and forests.

She told of the part the General Federation of Women's Clubs has taken in the conservation of the nation's natural resources including forestry, water and waterways, gardens and nature study. Many of the state federations, she declared, have and are sponsoring tree plantings, highway beautification and wild life refuges.

"The best purifying equipment for water to be used by fish is ground cover," said Mr. O'Malley, speaking on the subject "The Water Side of Fish and Wild Life Conservation," "whether it be timber or scrub growth or underbrush. When this ground cover is removed, we can begin to look for something painful to happen in our streams, and as it grows back, the fish fauna has a tendency to revert gradually to the types which were predominant under primeval conditions.

"The assurance of an abundant water supply inevitably falls back upon the basic essential of watersheds clothed with trees," said Mr. O'Malley, "always excepting the vagaries of nature in bestowing normal or abnormal rainfall. We realize, of course, that the two agencies of fisheries and forestry can hardly be expected to work in unison in the development of individual programs of a specific limited geographical scope. We know that, for instance, the shad run of the Potomac River is correlated with the rainfall in the upper waters of the Potomac system hundreds of miles back in the Appalachian Mountains. We also know that the forest cover in that area will determine whether the rainfall is handed over to us in a practicable, usable way or whether it is dumped in our unwilling hands as torrents and floods, serving as a handicap rather than a benefit to our efforts to improve the shad fisheries."

Chief considerations in fisheries conservation are floods, drainage, pollution and drought, said Mr. O'Malley.

Declaring that the existence of many species of native waterfowl is now seriously threatened, Paul G. Redington said: "In its final analysis water for waterfowl means just two things—an abundance of it, with freedom from impurities that are detrimental to the health of the birds. Both of these requisites are today sadly lacking, due in part to natural causes, but unfortunately, in a large part to the activities of men through drainage and pollution.

"As a nation we have been dealing with our marshlands much as we have with a great many other natural resources—acting first and considering the consequences later. The result is millions of acres of drained marshes and lakes, representing in many cases a direct economic loss to the nation. The preliminary report of census figures for the year 1930 indicates that the drainage ditch has taken away from our waterfowl, in whole or in part, approximately 77,000,000 acres in the continental United States. There is no question but that some of this attrition of water areas has resulted in the addition of valuable farm lands, but in some regions, much of it has been shown up as a rank failure. On literally tens of thousands of acres no success in farming has been achieved and many drainage districts are heavily in debt or are defunct.

"The problem of saving the nation's remaining water areas from wasteful destruction (*Continuing on page 412*)



Photograph by George F. Slade

Mount Kearsarge — in the center of New Hampshire. This view is from the West, and shows one of the areas of 800 acres that are proposed for purchase.

SAVING THE DOME OF NEW HAMPSHIRE

Citizens Seek to Acquire Famous Mount Kearsarge for State Park

By PHILIP W. AYRES

WHY save a mountain? What does it matter if it is stripped of timber and the slash burned? In the first place the steeper the slope the greater the erosion. Nothing except the forest can keep silt on the mountains, where it belongs, and out of the rivers that have to be dredged at great expense, as well as out of the mill-ponds and power flows, where it sorely vexes industry.

Fire follows a lumber slash as darkness follows light. In the northern Appalachians mountain soils are composed of vegetable mold, accumulated during thousands of years since the Ice Sheet. When dry, this burns to the bare rock. The forests of spruce and fir that crown these summits have been builded up through the ages. They can be logged off and burned in a month. A forest fire in the mountains injures profoundly the growth of the forest for centuries.

But why undertake to save a mountain now, in these hard times, when widespread unemployment stares us in the face? The answer to this challenging question is that the depression has brought favorable conditions in the land market, not likely to recur for a long time to come. This is a buyer's market.

Obviously it is more important to feed the hungry than to save timber from destruction; but the necessity to maintain

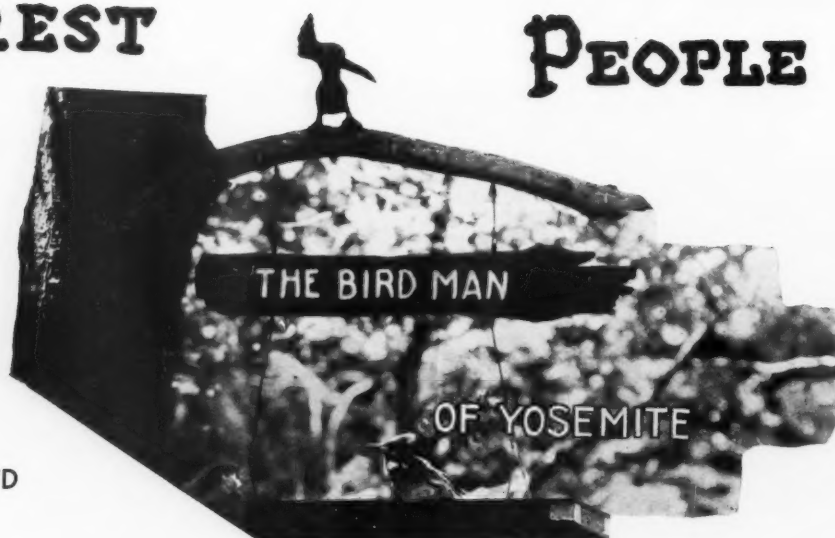
the mountain cover which regulates the flow of water and controls electric current and vast manufacturing establishments, persists even in times of stress. Mountain soils are the source of the nation's industrial strength.

During the throes of the World War, while the enormous pressure for timber in France was at its height to provide supplies for three allied armies—lumber for cantonments, bridges, mine props, railway ties, road foundations, boxes for shipping ammunition, wagons and tools—when the very existence of France was at stake, the French people would not permit the American forestry regiments to cut timber in the American manner, but insisted upon maintaining the young forest growth for a future supply. Perhaps the greatest lesson that American forestry ever learned was in France during the War.

Mount Kearsarge, in the center of New Hampshire, was known as Carasaga in 1639, when the first white men, nine years after the settlement of Boston, learned of more and more peaks from the Indians. A century later an old map spells it Cu-sa-gee. By 1755, when surrounding towns were laid out, it became Kyarsarge. Not until 1816, nearly two hundred years after the discovery of this mountain, did the present spelling become fixed. (Continuing on page 430)

FOREST

PEOPLE



By JAMES V. LLOYD

THERE are some who think all members of the bird family are alike, but Herbert Sonn, the "Bird Man" of the Yosemite, knows differently. No two are exactly the same in shape, size, mannerisms, or song, regardless of whether they are robins, stellar jays, juncos, red-shafted flickers, western tanagers or nut hatches.

Herbert Sonn, born in Newark, New Jersey, comes from a large family of successful artists and educators. After twenty years spent in the commercial art field in New York his health failed and, in 1910, he moved to California. Here he followed the interesting work of guiding his fellow men on daily trips through the great Sierra forests, where many varieties of birds were always encountered.

After four years of outdoor life, Mr. Sonn returned to New York and the commercial art field, but found himself unable to continue his work because of illness. Seeking health once again, he went back to California.

He made a trip to Yosemite in 1921 and learned to interpret nature by making interesting bird caricatures. His creations have attracted hundreds of visitors. There he has remained for the past ten years and now, with health recovered, he expects to continue bird caricature as his life's work.

Artist and lover of the outdoors, Mr. Sonn has chosen an interesting loca-

tion among the great granite boulders on the south side of Yosemite Valley near the start of the Ledge Trail to Glacier Point. A rustic fence, constructed from twisted and gnarled oak and incense cedar limbs interwoven for mutual support, surrounds the workshop and open air auditorium which he has built under the friendly shade of broadleaf maples and black oaks. Almost two-thirds of a mile directly overhead is

the towering Glacier Point and famed Overhanging Rock, projecting itself out some ten feet from the edge of the vertical walled cliff. Tucked away among the rocks and native vegetation of the camp are several bird baths. Here the little feathered friends of the "Bird Man" splash away to their hearts' content, knowing they are safe from disturbance. Drinking fountains with a stream of crystal clear water constantly trickling into polished glacial basins are only a short distance from the feeding trays, which serve as a common meeting ground for all the Yosemite birds.

"Plenty of food and water for drinking and bathing," says Mr. Sonn, "are the first essentials of an intimate contact with the bird life of the forests. If one or two days are missed in supplying these natural requirements, the birds will move on to a new feeding ground."

"I always manage to have some raw, unshelled peanuts in my pockets to feed

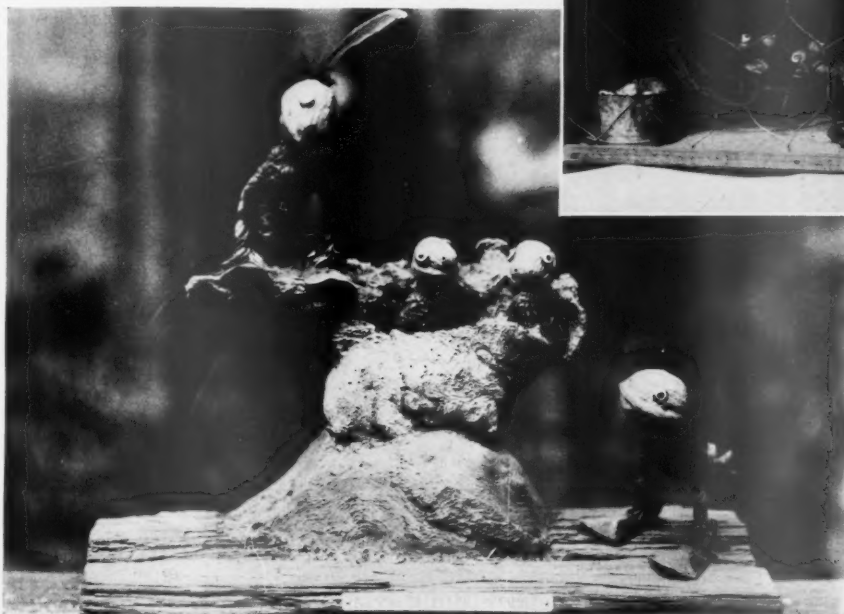


The entrance to the Bird Man's camp, which great pines, oaks and maples give perfect seclusion. Here the wild birds of the forest come freely.

any jay that may fly on my hand or shoulder. Quite a few of the older birds come into my tent for a private feeding to escape their young offspring who, while capable of providing their own food, persist in following their parents around in the hope of being fed."

Birds do not mind noise nearly so much as movement, he declares. It is movement that frightens them, particularly the sort to which they are not accustomed. He always warns visitors at his camp to move about slowly.

During his waking hours Mr. Sonn is feeding the birds constantly. Hundreds of hungry mouths seem to open with the coming of the dawn. Some of his feathered friends simply will not leave until they have had



This lover of birds makes fascinating caricatures of his bird friends, from material gathered in the Yosemite forest, and duly domiciles them in happy homes.

Mr. and Mrs. Beezle Bill and family have their home in an oak knot mounted on a piece of Incense Cedar bark.



A Stellar Jay—shyest of forest birds—is about to open the peanut held for him by Herbert Sonn. "Never try to hold a bird of the forest in your hands," advises this authority.



four or five peanuts crammed down their throats. The birds consume one hundred pounds of unroasted peanuts during the summer season.

"Acorns are one of the favorite natural foods of the stellar jays," said Mr. Sonn one day while talking to a group of visitors. "You will notice the jay does not attempt to eat the peanut taken from me but goes just a short distance from camp and buries the food. He follows the same practice with the acorns. Through this habit, the jay makes valuable contribution to reforestation."

However, the bird himself loses a great many acorns and peanuts from this habit of storing food. The ground squirrels raid the caches and sometimes the birds forget where the food was hidden. In a measure this accounts for some of the splendid black oak tree reproduction that is seen on the floor of Yosemite Valley. When this statement was made, some humorously inclined visitor raised the following question:

"If the stellar jays bury the acorns that bring forth a number of oak trees, how about the hidden peanuts producing peanut bushes?" Sonn was asked. "I wish that the peanuts the jays hide would grow," he rejoined, "for I could save considerably on my peanut bill. Unfortunately, the chickarees and ground squirrels find most of them and I have occasionally seen deer nosing them out of the ground."

Twice a day the "Bird Man" of Yosemite gives an interesting informal talk revealing many little-known intimacies of bird life. Vacationists representing nearly all walks of life find their way to his hidden retreat among the polished boulders.

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Conservation Leaders in Congress



Senator Peter Norbeck, of South Dakota, Son of Immigrants, Friend of the Birds and Father of Custer State Park in the Black Hills

By LAURA THORNBOROUGH

"It is surprising that a man who has spent much of his life digging holes in the ground should have become one of the outstanding leaders of conservation in Congress."

This remark, made by a high official in the United States Forest Service, referred to Senator Peter Norbeck, of South Dakota. Born in Clay County when South Dakota was yet a Territory, it was the most natural thing in the world that this young farmer should become a well-driller. Water was life to those early settlers and homesteaders and as there were few natural springs the demand for water was met by deep artesian wells. And the well-driller was welcomed wherever he went. The friends he made sent him to the State Senate for three terms, made him lieutenant governor for one term, governor for two terms, elected him to the United States Senate in 1920 and have kept him there ever since.

While a member of the State Senate, Peter Norbeck secured important legislation for the first steps in the establishment of the now famous Custer State Park of more than 100,000 acres, in the Black Hills of South Dakota. Later, when governor, the final steps were taken to make it a park in name as well as in fact, "the most outstanding thing ever done by a Western Governor in protecting forest land for the people of the State, and in providing for future protection," according to a high government official.

When asked to tell the story of the Custer State Park, the Senator smiled reminiscently. "That was an inspiration, but I don't like to talk about it."

So from others it was learned that Peter Norbeck found that South Dakota had made big timber sales regardless of the amount of timber that could be safely cut and with no thought or care for a permanent forest. Such methods made him see red, and he resolved to do something to save the natural resources for the people of the State. And from then on he kept his resolve. For the first five years, however, he had scarcely five converts to the idea of a state park, which became a reality only after a long and bitter fight.

Making the park accessible to the people was his next problem. So wild and rugged was the region that the people said roads could not be built to many places of great beauty. "Of course we can build roads," said Peter Norbeck, un-

daunted by the seemingly unsurmountable problems in engineering and finance. He tramped the country with the engineers, proposing the road to Sylvan Lake and to the Granite Needles. As a result of this leadership and vision the park contains one of the really noble scenic highways of the country.

The successful termination of the project stamped Peter Norbeck as a leader in the cause of conservation, and the park will remain forever a living monument to him.

In Congress, Senator Norbeck has worked consistently to give the nation National Parks, National Forests, National Game Preserves, Wild Life Refuges and last, but not least, the new Rushmore National Monument, which, when completed, promises to be one of the wonders of the modern world.

His legislative activities have been along three lines—conservation, agriculture and, more recently, banking. He is a member of the following important committees: agriculture and forestry, appropriations, banking and currency, public lands and surveys, Indian affairs, library, a special committee on conservation of wild life resources, and the Migratory Bird Conservation Commission.

Senator Norbeck has been credited with "the most constructive and far-reaching bit of legislation ever enacted by Congress, reaching literally around the world," namely, Section 527 of the Tariff Act of 1930, which provides that when a foreign state or province affords special protection to animals or birds these species may not be imported into this country except under certificate showing that they were legally exported, thus applying to the whole world that provision of the Lacy Act which prohibits the shipment, from one state to another, of game illegally killed. When asked about this matter, he replied that this idea was not his own, that he only offered the amendment.

After friends of conservation had spent ten years of unsuccessful efforts to secure migratory bird legislation to protect the wild life in Canada and the United States from the danger of extermination through lack of protection during the nesting season, or while on their way to and from the breeding grounds, Senator Norbeck took up the fight. He is co-author of the Norbeck-Andresen Migratory Bird Conservation Act of 1929, "an act to more effectively meet the

obligations of the United States under the migratory bird treaty act with Great Britain by lessening the dangers threatening migratory game birds from drainage and other causes by the acquisition of areas of land or water to furnish in perpetuity reservations for the adequate protection of such birds."

The result of this legislation, the culmination of years of effort on the part of wild life conservationists, has been the forming of the Migratory Bird Commission, of which Senator Norbeck is an active member, and the establishment of ten migratory-bird refuges, through purchase or lease authorized by the Commission, and of four others by the reservation of public lands for the purpose.

One's first impression on meeting Peter Norbeck is of rugged strength. He reminds one of the Norway pine, "up-standing, ruddy, health-dispensing too." One's next impression is of a merry twinkle in deep blue eyes and of deep reserves behind those eyes. One finds him the most modest of men, disliking interviews and publicity exceedingly and tactfully turning aside questions he does not choose to answer.

"I am not much of a talker," he insisted, "and usually talk only when I feel there is something that should be said and no one else will say it. For the first eight years I was in the Senate," he added with a reminiscent smile, "I took just eight hours of the Senate's time—an hour a year."

When asked how he happened to get into politics and to become known as a champion of conservation, he said simply, "I couldn't help it; it was in my blood." After a pause he explained. "You see, both my father and mother were immigrants. My father's folks were Swedes.

They were mountain people. You might have called some of them hill-billies. But they were lovers of nature. I grew up hearing the beauties of nature freely discussed and having them pointed out to me. My mother came from one of the most beautiful sections of Norway and the love of beauty and of nature was born in her and in her people.

"When my father reached Dakota Territory he knew no English. At the age of thirty he went back to school, in the primer class, with the little tots. When he had learned to speak and to read English his fellow countrymen came to him for help and counsel and the next thing he knew he was in politics. Six years after he landed as an immigrant, he was elected a member of the Legislature.

"I was born in Dakota before there was a railroad and I was nearly thirty before I saw a show or circus. It was just a little incident that started me in politics when I was a lad of nineteen, but if it hadn't been that it would have been something else."

After the establishment of the Custer State Park, Peter Norbeck turned to another dream, and today there is being carved on the sides of Mount Rushmore in the Black Hills of South Dakota a colossal memorial statue of four presidents of the United States. "The completed plan," Senator

Norbeck told Congress on February 22, 1929, "comprises a heroic group of our nation's builders, to commemorate the founding, expansion, preservation and unification of the United States, in the form of statues of Washington, Jefferson, Lincoln and Roosevelt, carved on a scale several times greater than that wonder of the ancient world, the Great Sphinx of Egypt. Each figure scales to the proportion of men 465 feet high, fading into the ledge at the waist line, the tops of the heads being upon the sky line. The design is by the well-known artist Gutzon Borglum. The mountain was dedicated to the memorial by President Coolidge, with appropriate ceremonies on August 19, 1927. It is believed that this will be one of the great works of art of this continent."

The head of Washington has been completed and was unveiled on July 4, 1930. The head measures sixty feet from brow to chin. The head of Jefferson is at the present time beginning to take shape.

Occupying a prominent place on the walls of the Senator's office is a photograph of the head of Washington as carved on this National Monument. The other pictures are equally significant of the Senator's interests—a scenic highway in the

Black Hills, showing the road cut through one of the granite needles, a lake in the Teton National Park, in Wyoming, one of the parks for which the Senator is partly responsible, and a group of four musk-oxen, members of a herd of thirty-three animals moved from eastern Greenland to Alaska in 1930.

Behind the picture of the musk-oxen is the story of the Senator's fight for the Alaska Game Commission bill—the first conservation measure for which he took up cudgels—and the nine-year fight for

the restoration of the musk-oxen on their native Alaskan tundra. As a result of this legislation, a shipment was made from Greenland, where a few remaining animals still rove these Arctic lands. The story of this herd was carried in AMERICAN FORESTS at the time of its arrival in Alaska.

Another conservation measure in which the Senator has been interested relates to mining claims, whereby a claimant to minerals would get title to the ore body but not to the surface. This measure, which passed the Senate but did not pass the House, was designed to protect legitimate mining claims, but to correct abuses which Peter Norbeck found when fighting for the Custer State Park, namely, that mining claims had been filed for other purposes beside mining.

Senator Norbeck, when asked to name the most important conservation measures for which he had worked, smiled and said: "Personally, I believe we attach too much importance to legislation. I think of legislation as a passing phase, a current need, a little step in progress. When convinced a measure is constructive, I'll work for it. That's my job. And when I start a thing I like to see it through. It isn't so important what you accomplish; the important thing is to keep working at your job, to do your part as well as you can, to look ahead,

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Senator Norbeck in Custer State Park, in South Dakota, the establishment of which was his first big achievement in conservation.

A Memorial to Pioneer Lumbermen

THE LANDLOOKER, THE RIVERMAN AND THE WOODSMAN SCULPTURED IN BRONZE TO STAND AS VIVID REMINDERS OF MICHIGAN'S BY-GONE DAYS

By GREGORY V. DRUMM

THE sharp ring of the ax in bitter cold air, the rising whine of the busy sawmill, the cry of *Timber-r-r-r!* days and nights of sweating, swearing, of pushing on to fell the almost countless members of a majestic expanse of pine. Perhaps all of this with the lumberman who wove it into a stirring tale of true romance are disappearing forever from the American scene.

To those who feel regret at the thought that these things will be no more, the dedication of a monument to perpetuate their memory is a happy thought. But it is soon to be more than a thought. Very soon it will be actuality.

In the Huron National Forest of more than 500,000 acres in the northeastern part of the lower peninsula of Michigan there courses a river. It is the Au Sable, famed logging stream of an older day. On a lofty bluff overlooking one of the most picturesque spots in all America, overlooking in truth the very Au Sable where men died in the "spring drive," there stands today a monument of bronze and granite. It is a memorial to the pioneer lumbermen of Michigan.

Standing there within the gigantic arms of the "Y" formed by the breaking of the Thompson Trail, an old tote road, to form divergent paths, the memorial is an impressive sight. Three nine-foot figures of bronze—the landlooker consulting his charts, the riverman with his hand gripping the working end of a peavy, the woodsman with his ax and crosscut saw—these heroic figures silhouetted against the sky are vivid reminders of a day that is gone from Michigan. Its memory is as enduring as the twenty-ton granite base of the monument.

On July 15 conservationists, lumbering men, outdoor men and those interested in the things of the woods will convene in the shadow of the monument to talk of the past, to speak of the present and to tell of the future of God's great handiwork, the tree.

On July 16 the monument will be formally dedicated. The grounds will be set aside as a perpetual sanctuary, free forever from hunting, and the area will be officially entrusted to the care of the United States Forest Service.

Fittingly, both to mark the bicentennial celebration of the birth of George Washington and to commemorate the dedication of a monument built because of trees, one pine will be planted for each member of the committee responsible for the erection and dedication of the memorial. Addresses appropriate to the occasion will be made by men of national and international repute.

Following the ceremonies at the monument site, there will be a tour through the Huron National Forest that stretches

for miles around. The list of those expected to be present at the dedication is almost a roll call of those famed both here and abroad for their work and interest in the cause of forestry. The dedication itself will mark the culmination of more than three years of effort by those who labored to make the memorial possible. On May 24, 1929, twelve men—W. B. Mershon, T. W. Hanson, John W. Blodgett, C. Rust MacPherson, Charles T. Mitchell, George L. Burrows, H. E. Fletcher, Allan M. Fletcher, Robert Rayburn, Harry B. Black, T. F. Marston, and R. G. Schreck, all of Michigan, and representing both the old and new in Michigan lumbering—met in the City of East Tawas, the gateway to the National Forest, and made the first plans for the memorial.

R. G. Schreck was at the time supervisor of the Huron Forest. G. K. Fenger is forest supervisor now.

These twelve men chose the motif now embodied in bronze, and laid the ground work for execution of their ideas. Through the intensive work and interest of both Mr. Mershon and Mr. Schreck, the \$50,000 required for the job was raised from among those whose names are synonymous with lumber in Michigan. Robert Aitken, internationally famed sculptor, submitted a model for the monument which was accepted, and shortly afterward he took up the task of sculpturing the piece.

Late in the fall of 1931 the memorial was placed in its position on the Au Sable River but, due to the lateness of the season, its dedication was delayed until this year. Dedication plans have been made principally by E. W. Tinker and G. K. Fenger of the Forest Service, W. B. Mershon of Saginaw, and T. F. Marston of Bay

City, Michigan. Chiseled in the granite base of the monument is this inscription: "Erected to Perpetuate the Memory of the Pioneer Lumbermen of Michigan Through Whose Labors Was Made Possible the Development of the Prairie States." On the three remaining sides of the base are chiseled the ninety-one names of those who gave to make the memorial possible. Their names are written indelibly into Michigan lumbering history. A photograph of the finished monument is reproduced on the front cover of this magazine.

Gone, perhaps forever, are the hard fisted men of the Michigan woods; gone, perhaps forever, are the spring drives, the whine of the sawmill, the lusty fights, the songs that thundered through the woods. Gone perhaps in actuality, but the memory of it all shall live forever in these three figures standing heroically against the sky. Some day the unseeing eyes of these mute figures will look out upon an expanse of wood strenuously rivaling the scene that lay there seventy years ago.



Robert Aitken, the sculptor, sitting at the base of the monument he designed.



EDITORIAL

Shall the Bank of Nature Fail?

GEORGE D. PRATT, President of The American Forestry Association, told members of President Hoover's Timber Conservation Board meeting in Washington on June 8 in final session to discharge its public mission, that in view of the emergency existing the Board should use its influence and instrumentalities in saving organized protection of the country's forest resources from disintegration. This, in Mr. Pratt's judgment, would be the most constructive and timely service the Board could render. The gradual depletion of public and private funds for the protection of forest resources against fire, insects, disease, and other natural enemies, Mr. Pratt warned, is leading to a breakdown in the whole system of fire protection built up during the past twenty years and threatens with destruction the very resource the Board was charged with perpetuating. If the process of depletion is permitted to continue, he declared, it will expose to wholesale loss not only our forest assets but the complementary values inherent in stable forest land administration such as forage, wild life, soil fertility, scenic beauty, water supply, and the beneficial influences of forests upon floods and erosion.

Mr. Pratt unquestionably laid his finger on one of the most critical situations confronting forest conservation and public interests. It is bad enough to have the forest industries of the country virtually in a state of collapse and able to give employment to but a small percentage of their normal workers, but it seems inexcusable to permit protection of one of the country's most basic resources to crumble. "If the resources upon which these industries are dependent are permitted to be depleted and destroyed by a breakdown in protective systems," Mr. Pratt asks, "where shall the millions of dependents turn for a livelihood when normal conditions of industry and trade are restored?"

Elsewhere in this magazine appears an article entitled "Modern Vigilantes" which should bring home the acuteness of the situation not only to the Board but to legislators and to the general public. The public concern felt in Idaho and Montana where the destructive power of forest fires is keenly appreciated and where the governors have called upon their citizens for voluntary service, should characterize the public conscience throughout the nation. Our forests and other basic natural resources must be protected in this period of economic disruption and collapse. They have made our past

prosperity and growth possible, and they are the foundation of permanent reconstruction and future prosperity.

With federal and state governments economizing on forest protection and private forest land owners unable to provide normal protective funds, how can the nation's system of resource protection be maintained? It requires men and money to fight forest fires and forest insects. There is no lack of men yearning for an opportunity to work. Money is the crux of the problem. But Mr. Pratt answers that question by pointing out that protection of our forests and other renewable resources should be made an outstanding project in the reconstruction and unemployment relief programs of the Federal Government and the states. He maintains that such a project should qualify under the operation of the Finance Corporation just as much as protection of our banking institutions, since in the last analysis these institutions are dependent upon the natural wealth of the communities and states which they serve. He holds it would be sound policy and wise foresight for the states and subdivisions thereof to borrow money through the Finance Corporation to protect their forest assets and for the Federal Government to loan money for those purposes.

Thoughtful consideration of the natural assets at stake will, we believe, support Mr. Pratt's position. We can think of no public work that offers such constructive and worthwhile results as labor which protects and maintains the creative sources of the nation's wealth. Certainly it is work that in the course of years will justify itself many times over and will self-liquidate the expenditure involved by preserving the integrity of both public and private assets. The American Forestry Association is seeking to have the project given standing in the measure now before Congress to authorize the Finance Corporation to loan up to \$1,500,000 to the states to be used in self-liquidating construction projects. Forest fires are not merely a forestry question. They strike at virtually every renewable resource with which the country has been blessed. The magnitude of the interests threatened demand that not only the Timber Conservation Board but every public agency, every state forester, every conservation leader give vigorous aid in marshalling public support for a project to preserve nature's bank and in the preserving to give hungry men work now and security of employment in the future.



BOARD MONEY

Tenino, Lumbering Town in Washington, Adopts Wooden Currency

By NATT NOYES DODGE

THE old admonition regarding the acceptance of wooden money is entirely out of date as far as citizens of Tenino, Washington, are concerned. In fact, merchants in that enterprising little town in the southwestern part of the State are eager and anxious to exchange the commodities which they handle for all of the cash of this nature that they are able to obtain.

When the Citizens Bank of Tenino closed its doors early last winter, business in the community was practically paralyzed. Nearly all of the citizens were depositors, and many of them found their entire capital tied up for an apparently indefinite period of time. So serious was the situation, that the Chamber of Commerce determined to evolve some sort of a plan to relieve the condition while the bank either was being reorganized or undergoing liquidation. After consulting with bank officials and citizens, the Chamber of Commerce adopted a unique program.

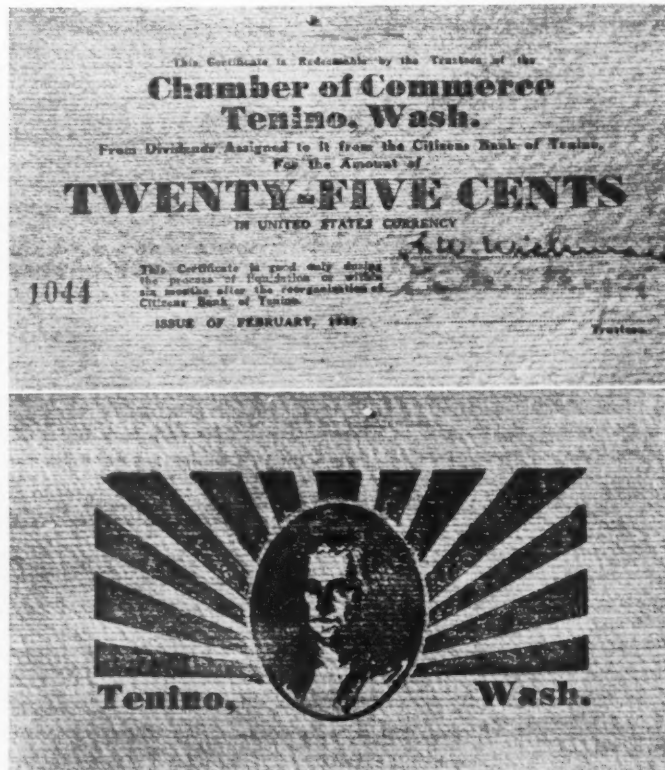
Each depositor, who cared to do so, might give an order on the bank to turn over to the Chamber one fourth of the amount which he had on deposit at the time the bank closed. In return for this order, the Chamber would issue to the depositor certificates of a face value equal to the amount signed over to the Chamber. These certificates, redeemable by the Chamber in United States coin, might be used as money in the community until the affairs of the bank were straightened out. As soon as the bank had liquidified sufficient assets to take up the orders given to the Chamber, all outstanding certificates issued by the Chamber would be redeemed by that body, and a second run of certificates issued in exchange for a second set of depositors' orders. This process would be continued until the bank had paid depositors.

The interesting feature of the program is not so much

the success with which it has been conducted up to the present time, but the fact that the certificates issued by the Chamber of Commerce have been printed upon very thin sheets of wood. To make this unusual currency as indestructible as possible, each certificate is made of two thin wooden strips glued together with a piece of paper between. In this way the money is guaranteed not to splinter, warp, or split. To date there have been no attempts to counterfeit the currency, but the certificates are so much in demand by

souvenir collectors that the Chamber anticipates that it will be called upon to redeem only a portion of the first issue, and may have to make a special issue to meet demands. Although the lowest denomination is twenty-five cents, there have been no reports of anyone making change with a saw.

Tenino has long been associated with the lumbering industry in western Washington, which is perhaps the reason that wood was the material selected for making the money. It is in Thurston County, not far south of Olympia, and just west of the Deschutes River. To the east rises majestic Mount Rainier, 14,408 feet above the sea, while to the south is rugged Mount Adams, 12,307 feet in elevation, and beautiful Mount Saint Helens, 9,671 feet. Certainly, this town, the first on record to adopt wooden currency, could not be more ideally located from a standpoint of



When the bank at Tenino, Washington, closed its doors, this little lumbering town issued wooden money. The unusual currency is made of two thin strips of wood, glued together.

forests. Before the day of intense lumbering in that region there were perhaps no mountains or mountain valleys in all of Washington so magnificently forested.

It is of interest to note, also, that the name, Tenino, originated with the number of a logging engine that was operated for years in that district. This old locomotive, number 1090, is no doubt destined to receive a measure of tardy fame through its namesake, the town which is the first on record to adopt the wood standard.

THROUGH THE LENS



A Magnolia Spray

—J. Horace McFarland Company

Short Lessons in Photography for the Outdoorsman PHOTOGRAPHING THE GARDEN

By J. HORACE MCFARLAND

IT is well to confess at the outset that I was driven into the toting of a heavy camera outfit, in the old days before the film took the weight out of the exposing surface, because I could not get good photographs from photographers. The reason for that was made quite apparent on investigation. The average photographer makes his living by depicting the human countenance and its associated body. He reads about portrait photography, and he practices it. His experience and his outfit all relate to the glorification of the human "mug." His proficiency and his success in this endeavor do not fit him for garden photography.

I suspect that Mr. Kiser, who has written on photographing the mountains in early spring, has before now sympathized with me, without knowing it, when someone considering his lovely productions has blandly invited sudden death by inquiring "What lens do you use?" or making some other equally inane and silly inquiry. My invisible cemetery is thickly populated with those I have consigned

to it during the more than twenty years of photographic experience with outdoor things not related to human portraits, in various parts of the United States.

The photographer in the garden needs to have perfect subconscious technique at his command; although this is not appreciated. The fatal facility of the hand camera and the advertising that has brought it into use have also brought the idea that anyone can photograph provided any kind of a camera is in his hands, loaded with film. I have known of well-meaning, sensible people undertaking a long trip with a new camera never used before, and this without any least photographic experience, with just about as considerable a possibility of success as would have occurred if Rudyard Kipling had been learning to write when he produced the "Recessional." The technique, I repeat must be subconscious, which remark, when I write it, reminds me of a story.

It was my fortune some years ago to be delivering certain lectures at Harvard. The dean of the school in which I was

operating invited me to a small dinner at the Colonial Club so that I might get to know some of the choice minds of the University. Among others present was Dr. Charles W. Eliot. This was about the time when much discussion was being had concerning the efficiency methods of the late Frederick W. Taylor, and the talk at the table took account of it. I noticed that when Dr. Eliot spoke in disparagement of the method, insisting that it made men machines and destroyed initiative, no one but myself ventured to say a word in defense of the Taylor principles and accomplishments. Being of that persuasion which rushes in when angels keep out, I offered as an illustration of the fact that technique became subconscious, my own experience in photographing several platoons of students at a military school in the act of firing a salute. I was particularly anxious to get the instant when the evidence of explosion left the cannon being used. All conditions were ideal, and the negative that resulted was perfect, but I was wholly unconscious of having pressed the bulb which made the exposure. Hearing the story, Dr. Eliot said decidedly, "Well, no good work was ever done that way," whereupon the dinner party separated with a laugh at my expense. I have always been sorry that I did not use the obvious retort to the good educator which would have been apparent if I had asked him to describe precisely how he tied his shoes that morning.

But in this garden photography, with the technique admittedly good, very much then bears upon the point of view. If the photographer is anxious to prove how effectively he can show a clump of white birches, he will avoid centering his camera upon that clump, particularly if it is so fortunately placed that a sunlit walk passes it. Such examples are not hard to find. Or if there is in this garden such a woodland walk as the path through the hemlock grove in the Arnold Arboretum, he will try to choose a time and conditions which will secure an important detail item in the foreground, at one side or the other of the composition, so that as he looks beyond it the path spreads out and gives the impression of distance.

Those who consider the examples which may accompany this story will promptly be criticizing the sharpness of the pictures. I admit that I have carried around for more than threescore years and ten a pair of eyes that are so quickly accommodating as to see both near and far subjects in reasonably accurate detail. As long as I toted the camera I liked to be sure that not only was the object of main interest "sharp," in photographic parlance, but that nearby objects did not confuse the impression it was desired to produce. It is easy enough to get it soft afterward, but I know no way in which the failure to focus properly from my standpoint can produce later a pleasing result.

This principle may have its exceptions, as all good rules have. There come times when it is best to have a subdued, soft and hazy distance without sharp highlights. Under the

practice which has recently prevailed in the establishment of which I am now mostly the good-humored critic rather than the actual artist, there has grown up a strong disposition to change from the old studio method we still have at hand of photographing such a subject as a tulip or a rose carefully placed on a plate glass with the camera vertically maintained above it, to the much more difficult job of getting that same tulip or rose right where it grows outdoors, with all the atmosphere and luminosity provided, either by carefully considered shadows or actual sunlight. As I have said, this is far more difficult, but lovely results follow its practice, especially if soft sunlight be the available illumination in the garden being photographed.

In the practice which has grown up in this establishment, with its thousands of garden pictures, we find it vital always to make dominant some one object in the composition. A long garden border can be shown at its positive worst if the camera is centered in front of these same objects of particular interest, without consideration of the distance and what it implies. As I write I am looking at an excellent photograph

of a notable rock-garden, made at a time when masses of perennial candytuft and flax were in bloom. One of these masses is in the foreground and is sharply definite, while the old mill in the distance provides the human relationship that is so necessary.

A thorough understanding of the habits of the thing to be photographed, or of the type of garden it is intended to record, is, I believe, essential not only to success in the result, but to that enjoyment which the camera artist should have as he does the work. Aggravating things occur when one is waiting for the wind

to subside so that there may be seconds or parts of seconds of the necessary stillness, but during these aggravating moments the mind in tune with the garden is subconsciously appreciating it to the utmost.

There are a few suggestions as to apparatus and methods which may not be amiss, despite the fact that not always does the best result follow the possession of the most perfect outfit. If the photographer desires to get flowers in the garden full size, he must provide himself with a camera having a bellows sufficiently long to double the focal distance between the lens and the plate. If it is an eight-inch lens he must have sixteen inches of bellows. He ought to have also a most accommodating tripod—the kind I hope to be provided with if I ever get to Heaven and am permitted to photograph there. It must stick just where it is placed, without any adjustment. Some of the modern tripods come pretty near to fitting this requirement, provided one does not forget to twist tight the various screws when he ought to twist.

Devices and mechanisms for keeping the sun out of the lens when one is photographing toward the light are important technical accessories. I still remember the old professor

J. Horace McFarland, of Harrisburg, Pennsylvania, began



his active photographic work in 1895, after some time spent in charge of the first three-color establishment in America. He has given his attention particularly to the photographing of flowers, trees, plants and similar garden items, as well as florist subjects, wherever they may be found in the United States. The men he has trained have traveled the world considerably, and the collection which has resulted includes more than 40,000 horticultural items. The first color photographs made in America were under Mr. Mc-

Farland's hands, before the autochrome plates became commercially available.



—J. Horace McFarland Company

When the camera records all the atmosphere and luminosity of the outdoor garden. Above, the colorful campanula, digitalis, ageratum and lilium are combined, while below is featured linum and candytuft.

who used to teach me photography, who said that it was axiomatic never to photograph against the sun, but added, "I must confess that some charming results are obtained that way!" The movie people have long shown what superb results can be attained when one's technique and judgment permit him to disregard the direction in which he points his lens.

The accessories of ray filters, to shut out excessive blue,

to permit the accurate rendition of color values, particularly in the reds, I hardly need mention.

I confess that in these days when the outdoors appeals to me with the strong pull which was still stronger when I could and did carry the camera, I feel envious of my assistants who do the actual work, permitting me only the vicarious job of criticism and suggestion, and not infrequently of enjoyment.

CONFERENCE FEATURES NATION'S WATER RESOURCES

(Continued from page 400)

and exploitation by unwise and unprofitable drainage schemes can be met by placing in some responsible agency of the Federal Government and of the respective states full power to examine into every important drainage and reclamation proposal that arises for consideration," said Mr. Redington. Pollution of streams, he concluded, has depleted fish, waterfowl and aquatic animal life to a point "where but a pitiful remnant of the original population remains."

At the American Forest Banquet, held in the Calvert Ball Room of the Lord Baltimore Hotel, and at which Emory H. Niles, of Baltimore, served as toastmaster, the conservationists heard Senator William T. Bulow, of South Dakota, speak on the subject "Making America Water Conscious." The nation has only to consider, said the Senator, the part water plays in its everyday life to fully accept its necessity. And once one is conscious of water values, he pointed out, one realizes how vital forests are as producers and regulators of water supply. Philip W. Ayres, Secretary of the Society for Protection of New Hampshire Forests, told of the need of protection forests in national water planning, while Dr. Raymond A. Pearson, President of the University of Maryland, spoke on the development of forestry in Maryland. During the course of the banquet Boy Scout William Brooke, of Cumberland, Maryland, was presented with the American Forestry Medal, and his Troop with the American Forestry Plaque, for his two-color design for a forest fire poster. The presentation was made by George D. Pratt, President of The American Forestry Association. Prior to this Mr. Pratt was presented with a young cedar tree from "Ferry Farm," the boyhood home of George Washington, by Mrs. James H. Dorsey, of Baltimore.

Following the indoor sessions the conservationists attended the dedication of a scion of the Washington Elm at Cambridge, Massachusetts, by the Maryland Chapter, Daughters of the American Revolution, in Druid Hill Park. Later a Mount Vernon walnut tree was planted on the grounds of Goucher College by the Boy Scouts of Baltimore, under the direction of Scoutmaster Joseph Thompson.

Mr. Pratt presented the tree on behalf of the nationwide nut tree planting program which is sponsored by The American Forestry Association, Boy Scouts of America, the United

States Department of Agriculture, and the American Walnut Manufacturers' Association. It was accepted by Dr. John L. Alcock, of Goucher College. The tree with its Mount Vernon traditions had been grown under the supervision of State Forester F. W. Besley at one of the Maryland nurseries from a seed gathered by the Boy Scouts on one of their annual pilgrimages to the home of George Washington.

The meeting was concluded with a field trip to the Patapsco State Forest and the Lock Raven State Park, both of which form parts of the watershed from which Baltimore derives its water supply under the direction of Karl E. Pfeiffer, Assistant State Forester of Maryland, and a woods supper served by the Boy Scouts on the campus of Goucher College.

In addition to the resolution urging that any national program for unemployment relief appropriations should include plans for the improvement, development and protection of forest lands, the conference adopted the following:

That The American Forestry Association stands unequivocally for the continuance of the appropriations for cooperation with the several states for forest fire protection as authorized by the Clarke-McNary Act. It deems unwise curtailment of this well-founded policy of federal and state cooperation.

That The American Forestry Association urges the early enactment by Congress of legislation to provide for Federal control and administration by the Department of Agriculture of the remaining unreserved and unappropriated public lands in order to protect the important interstate streams, and check destructive erosion on the Public Domain.

That The American Forestry Association indorses the Leavitt Bill (H. R. 4608), which provides for research in the role of forests and other cover in watershed protection, and urges its speedy enactment, as an amendment to the McSweeney-McNary Forest Research Act.

That The American Forestry Association heartily endorses the action of its Board of Directors in recommending that in any reorganization of government departments the activities concerned with agriculture, grazing, forestry and wild life preservation be continued in the Department of Agriculture.

A FOREST EMERGENCY

(Continued from page 393)

would aid in creating employment in factories, on farms, and on the great transportation systems. What is true of the National Forests is equally true of the state and privately owned forest lands. Greater areas and less completely developed systems of protection on such lands magnify the possibilities of constructive work.

A rough estimate indicates that well over \$100,000,000 could be profitably spent in the group of activities mentioned. It would be money well spent in that it would supply needed protection of basic resources and it would furnish employment to upward of 200,000 people and relief to more

than double that number of dependents. Protection of our natural resources furthermore is basic to our national credit at home and abroad. The project would help to stabilize land ownership and thereby afford some protection to local government against land abandonment and loss of taxes. It would aid in strengthening the foundation of agriculture by preserving the soil against erosion and property against destruction due to floods. And above all, it would assure the preservation and enhancement of the natural capital upon which our basic industries and institutions depend and upon which future employment of labor depends.

NEW WORLD FOREST FOR OLD

WHAT HAS THE UNITED STATES TO TELL EUROPE
ABOUT HOW TO MANAGE HER FOREST LANDS?

By HOWARD L. CHURCHILL

IT may sound like rank heresy or worse, to insinuate that the United States could now, or at any time in the near future, give to Europe any worth while ideas on the practice of forestry, but from a trip not long since, very similar to the one so ably and interestingly outlined by E. C. M. Richards in his article *Old World Forestry For New* in the March issue of *AMERICAN FORESTS*, I drew many conclusions similar to his and some that differ quite radically.

Brought up on a farm in Maine where the winters were largely spent in woods work of various kinds, it seemed quite natural to me to look upon farm woodlots and larger forested areas as an important part of, or adjunct to, agricultural lands with which they were connected and as yielding annually certain necessary supplies of wood or construction timber as well as logs and other products sold for cash. This of course was long before the opening of forestry schools in this country, but many shrewd farmers in that section looked upon their woodlots as a valuable asset.

If one could picture the wooded areas of continental Europe at the height of their exploitation in connection with the iron and then the glass industry, the contrast with present conditions would certainly be startling and in many localities in Germany, at least, almost unbelievable. Systems of management and the forests themselves have been gradually built up over a long period of years.

The three things that struck me with great force in a study of European forests and economic factors connected therewith were the very fine and highly productive forests themselves, the relative proximity of these forests in general to markets or to means of transportation, and finally the enormously heavy investment in lands, in stands of timber, and in improvements.

Having spent a great part of my life in direct connection with lumbering and pulpwood operations, both before and after taking up the study of scientific forestry in college,

questions of gross and net returns and general comparison of the lands being studied with forest areas in the United States and Canada at once became of great interest.

With the progress of the study, it became increasingly evident that there were tremendous forest areas in North America, where due to distance from markets, lack of means of transportation, and costly local logging conditions, no economic comparison with European forests could well be made even though the capital investment per acre in America might be relatively very small. At first the net return of only one or two per cent from the most highly productive and accessible areas in Europe made the picture for America look pretty black, but remembering that the farmers in New York and New England were growing more and better crops on less acreage and at lower cost per unit, it began to sink home that forest lands differed in value just as radically as agricultural lands and that probably a lot of the woodlands

of America had a negative value when considered as producing areas for logs or other forest products. This, to me, spelled forest land classification and for certain areas state or government ownership. It did not, however, convince me that public ownership of highly productive areas would be necessary or wise in putting such lands to their highest use. There has



Illustrating the very rapid growth of timber in the Eastern Adirondacks—this area has just been cut over the third time for pulpwood.

been and is now altogether too much of the fixed idea in the public mind that a tree is a tree and that any wooded area will return large profits if properly handled. Any economic land classification should show as well as can be determined the kinds and quantities of products that may be continuously produced at a cost which will admit of a fair return. Good business must further see to it that products are grown for which there is a public demand. The day has passed when one can grow any kind of a tree or plant and expect to sell it at a profit if the public demands something else.

Much is heard about putting forest lands on a sustained yield basis and it is a most (Continuing on page 426)



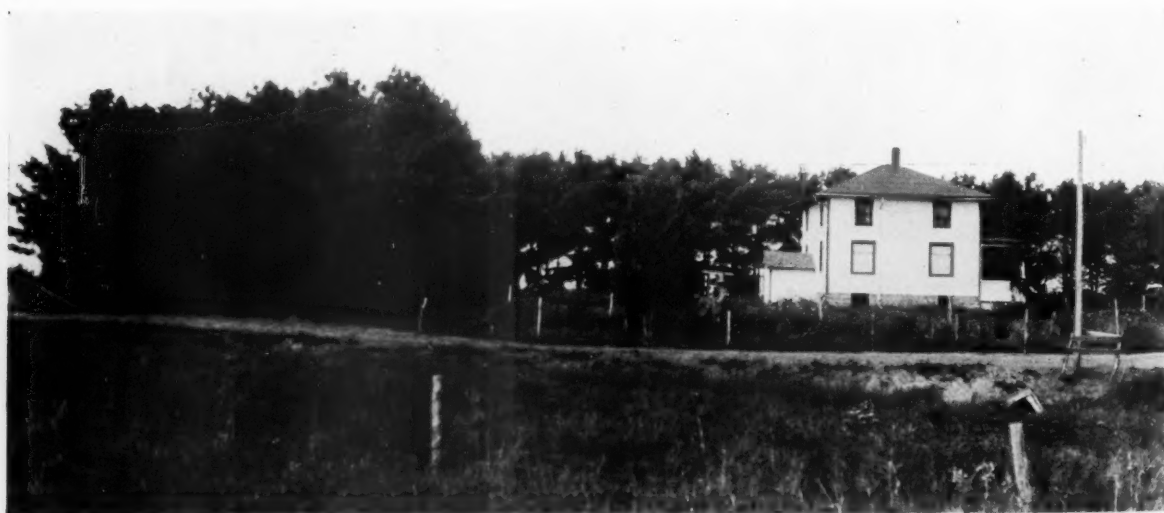
Planting a Windbreak a Task for Youth

"IF I EVER have any children, I am going to bring them here and show them the forest I helped plant." That doesn't sound like the remark of a fourteen year old boy—but it is. The most the boy could expect of the seedling trees he was planting would be one out of every two surviving at twenty years with forty years of growth needed to produce anything of merchantable size outside of fuel and pulpwood. Yet it was the fourth year the lad had helped plant and his zeal for and pride in the task had increased from year to year. The many survivals and increased growth of his first plantings had bolstered his faith. He had faith to believe that the years would bring their reward for careful planting and vigilant care. I have often thought of the boy's forward looking attitude as meet-

ing the biblical definition of faith—the substance of things hoped for; the evidence of things not seen.

There is an ever increasing number of youthful tree planters who are prompted by the same faith, boys and girls who know that tree planting and protection are important phases of good citizenship. To many of them the word forestry is a magic word that brings to mind Robin Hood, Daniel Boone or David Crockett, and the stirring scenes of logging camps and other men and scenes rich in romance and adventure. It is hoped that the more prosaic tasks of planting and other essential performances will never destroy the magic of this word.

Many boys living on farms are planting windbreaks or shelterbelts as they are called frequently. These boys are

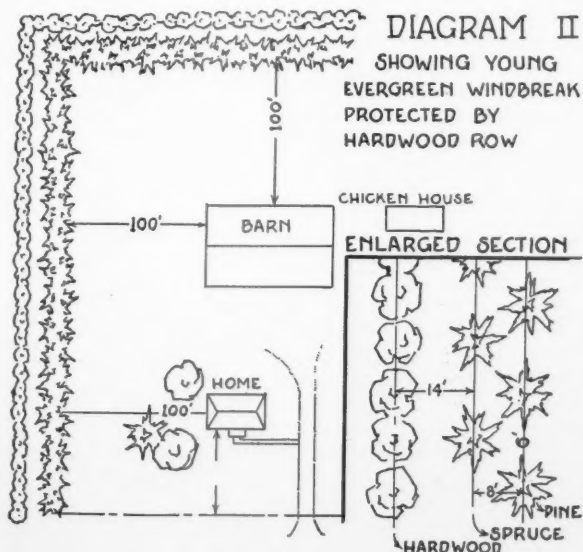


(Courtesy Wisconsin Conservation Department)

A windbreak is a comfort to all who live within its influence and an inspiration to all who pass by.

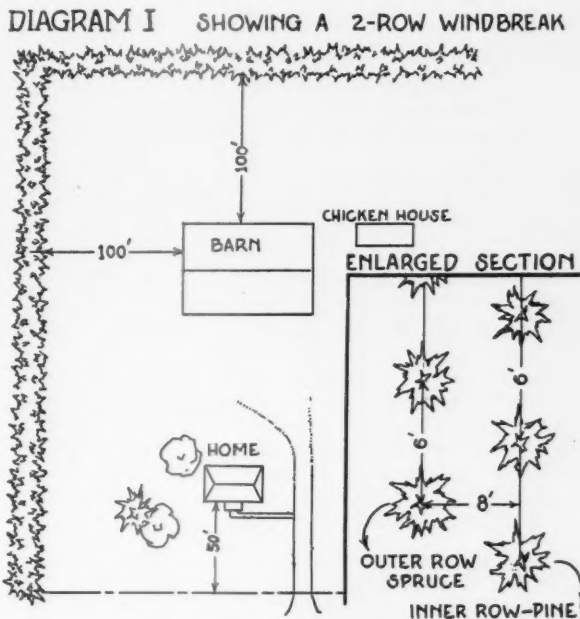
growing up with a determination to have trees. Some of them expect to remain on the farm and want the comfort, the beauty and protection that a windbreak provides. Others realize that it is a matter of good business to have a good windbreak for it will add to the value whenever the farm is offered for sale. In any event these boys are convinced that there is an obligation to plant trees resting upon those who have most of life before them, for they will enjoy the heritage resulting from their efforts. And after all, the object of much of our education is the building of a heritage or resources in health, knowledge, habits, friendships, and attractive surroundings.

Windbreaks are rows of trees protecting the farmer's crops from drying winds of summer and sheltering the barns and farm home from the cold winds of winter. In reality the trees send the currents upward and they do not return to the surface of the ground until they have traveled horizontally many times the height of the windbreak. In the northern tier of states an effective windbreak in winter is the equivalent of moving the home some hundreds of miles southwards. Low temperatures are not uncomfortable when the air is calm. Windbreaks produce this calm. Investigators claim that the beneficial effects of windbreaks in reducing evaporation from the soil and plants are definitely felt one rod to the leeward for every foot the windbreak is high. A windbreak ten feet high would check evaporation noticeably one hundred and sixty-five feet to the leeward. Undoubtedly the windbreak has an objectionable influence on the adjacent crops for about a rod, or about the space required in turning a team in cultivating, but beyond the benefits more than make up for the damage. In certain sections of the country, where the soil is light and rainfall limited, windbreaks are necessary to conserve the moisture and prevent wind erosion of the soil.



We have gone far enough in the discussion to show that the row or rows of trees making the windbreak must be at right angles to the prevailing winds. In Wisconsin, the severe winter winds blow from the west or northwest, so the windbreak is planted on the north and west side of the home in the form of the letter L. In certain parts of the Middle West protection is needed from the hot drying winds from the south that have been known to wilt whole fields of grain over night. Here shelterbelts are needed running east and

west. This discussion will be limited to the windbreak for the farm home. Since one foot of windbreak has an influence for a horizontal distance of one rod, how far away from the home should the windbreak be planted? Two things, at least, should be considered. One is snow. Immediately on the leeward side of the windbreak is a zone of calm. Here snow accumulates in drifts, so the house should be beyond this zone. The next consideration is securing a



Directions for planting a windbreak. Two varieties of trees are suggested for a two row windbreak, chiefly to secure more compactness of foliage. Too, two varieties will assure a windbreak in case of the destruction of one species by disease or pest.

proper setting for the house. Proper landscaping would require that there be an area of lawn between the windbreak and the house. To meet these considerations seventy-five feet would be the minimum distance.

Evergreens make the best windbreaks. They have needles in winter when most needed, the compactness and form that deflects the wind, and they have beauty. Everybody enjoys the dark green conifers in winter and the beauty of their young growth in spring. You see, there is lots of sentiment as well as utility attached to a windbreak. Hardwoods make good shelterbelts for crops because they are in leaf when protection is needed. In windbreaks for farm buildings, hardwoods are not very effective in winter but can be used as a temporary protection for a young evergreen windbreak. It would take a small size fortune to establish a windbreak several hundred feet long if large evergreens were purchased at nursery prices, but any farm boy can grow his own plants. He has plenty of ground, the tools to work with, rotted manure to improve the soil, material for mulching and some spare time to do the little work connected with the growing. Transplants four or five years old can be planted directly into a windbreak, but smaller plants should be put into a transplant bed and cultivated until large enough to plant into a windbreak.

In brief the method for making a transplant bed is as follows: Select a spot that is protected from the wind. Make a bed five feet wide and as long (*Continuing on page 426*)

FORESTRY IN CONGRESS

By G. H. COLLINGWOOD

CONGRESSIONAL authority to approve or disapprove within sixty days any recommendations of the President for reorganizing government bureaus or departments relating to conservation was retained in the special Legislative Economy bill, H. R. 11267, as passed by the Senate on June 8. The section relating to departmental reorganization had previously been amended by the special Senate Economy Committee, to give the President authority to reorganize a limited number of Federal activities including conservation without Congressional approval of this action. Upon motion of Senator Nye, of North Dakota, the word "conservation" was struck out, on the ground that Congress should have full authority to pass upon consolidations that may affect the conservation bureaus. In a letter to President Hoover, dated May 11, and published in *AMERICAN FORESTS* for June, 1932, President George D. Pratt of The American Forestry Association urged that forestry and other related conservation activities be centered in the Department of Agriculture.

Another major change was the elimination of all reference to the creation of a Public Works Administration. Due to the possibility that this may not be accepted by the conferees when the subject is taken up in conference, Senator Hayden of Arizona inserted in the Record recommendations that in the event the Bureau of Public Roads is transferred to a Public Works Administration its relationship to the Forest Service shall not be affected.

Compulsory furloughs without pay, under which every Federal worker receiving \$1,200 or more, is subject to a thirty day annual furlough without pay, was written into the bill before it passed the Senate on June 8. This follows closely the recommendations of President Hoover and will have the effect of placing much of the Federal work upon a five-day week basis. It will apply to all employees in the Forest Service, National Park Service, Bureau of Biological Survey, Bureau of Fisheries and other technical and administrative bureaus.

The item for printing and binding was reduced from \$10,000,000 as passed by the House to \$8,000,000. Furthermore, all reference to the publication of Farmers' Bulletins was struck out. Earlier drafts of the bill carried \$14,000,000 for this item.

The bill as passed by the Senate is expected to save the Government about \$155,000,000. This is \$82,000,000 short of the needed savings, but the present total is \$100,000,000 greater than was effected in the bill as it passed the House.

The Garner-Rainey emergency relief bill, H. R. 12445, authorizing \$2,300,000,000 for emergency relief, passed the House on June 7. This would include \$1,200,000,000 to be used for public works, including \$10,000,000 for forest roads, trails, bridges and fire lines, together with \$3,000,000 for roads in national parks and \$1,000,000 for roads on Indian Reservations. The bill would also permit loans to corporations engaged in the construction of housing.

On June 8, Senator Wagner of New York introduced S. 4860, separate from his larger relief bill, to authorize loans to the states by the Reconstruction Finance Corporation aggregating \$300,000,000. Such loans would be used for public works which are income producing or self-liquidating in character. In President George D. Pratt's address before the annual meeting of The American Forestry Association in Baltimore, and again in a statement submitted to the Timber Conservation Board on June 8, the

opinion was expressed that the Federal Government could wisely loan money through the Reconstruction Finance Corporation for protecting state and privately owned forests.

The remainder of the Wagner bill, S. 4755, providing \$2,000,000,000 for construction of self-liquidating projects, and emergency public works, was favorably reported by the Senate Banking and Currency Committee. Most of this would be provided through loans from the Reconstruction Finance Corporation, and the authorizations include \$16,000,000 for forest, park and Indian Reservation roads. This is similar to H. R. 12331 introduced in the House on May 26 by Representative Celler of New York. On June 15 the Senate banking committee agreed to report the Garner bill with the provisions of the Wagner bill substituted, so that both measures could go to conference.

The Agricultural Appropriation bill was brought up in the Senate on June 10, but all of the items in question were not agreed to. Unless further reductions are made the Forest Service appropriations will total \$12,383,304 as compared with \$17,004,620 for the current fiscal year. Nine annual supply bills and the second deficiency appropriation bill, H. R. 12443, must be considered and passed before July first, if fiscal activities of the Government are not seriously handicapped.

Hearings on the Colton bill, H. R. 11816, to establish grazing districts on the Public Domain to be administered by the Department of the Interior, were held by the House Committee on Public Lands, and closed on June 4. They were featured by testimony submitted by representatives of the Departments of the Interior and of Agriculture. The bill has been described as the most liberal and comprehensive grazing measure ever considered by Congress, more sympathetic to the grazing interests, and more satisfactorily recognizing the Federal obligation than any other bill of its kind ever drafted.

Questions of possible friction between the two departments in administering national forests and grazing districts were satisfactorily answered by the following statement submitted by Chief Forester R. Y. Stuart, who said it promises a "settlement of what I believe to be the most vital land problem before the American people. I trust your committee will take early and favorable action on Mr. Colton's bill. I wish also to assure you that in its administration the Department of the Interior will have the whole hearted support and cooperation of the Department of Agriculture. I am speaking directly for the Forest Service, but am equally certain that I voice the sentiment of every branch of the Department. The people of the United States have a right to expect an era of constructive service in the management of their public lands. I trust they will not be disappointed."

Disastrous results which follow improper use of the western watersheds were dramatically portrayed by Professor Reed W. Bailey, of the Utah State Agricultural College at Logan, who remained in the East after presenting a paper before the annual meeting of The American Forestry Association, to accept Representative Colton's invitation to appear before the Committee. Professor Bailey, who is Associate Professor of Geology, described the recent channeling in the valleys of southern Utah and emphasized the fact that soil and vegetation are the chief elements which are vital to a watershed in regulating water run-off. The occurrence and maintenance of soil and vegetation on steep slopes under climatic conditions typical of the arid west constitutes a delicate balance—a balance built up (*Continuing on page 419*)

The Hall of Fame for Trees



The William and Mary College Live Oak

At historic Jamestown in Virginia is the famous Blair Sycamore, a remarkable tree that separates the tombs of Dr. James Blair, founder of William and Mary College, and that of his wife, Sarah Harrison. The age of the tree is estimated to be 180 years.

It is recorded that on October 27, 1856, Bishop William Meade visited the site, and from his description the tree had then completely separated the graves. The heavy stones of the tombs were broken and either overgrown or scattered. In 1901 the two tombs were repaired and the inscription renewed, but today the sycamore holds within its hollow trunk one fragment of a marble slab, while another may be seen embedded in the base of the trunk. Mrs. Blair died in 1713 and Dr. Blair thirty years later. The tree was nominated to the Hall of Fame for Trees of The American Forestry Association by J. Luther Kibler.

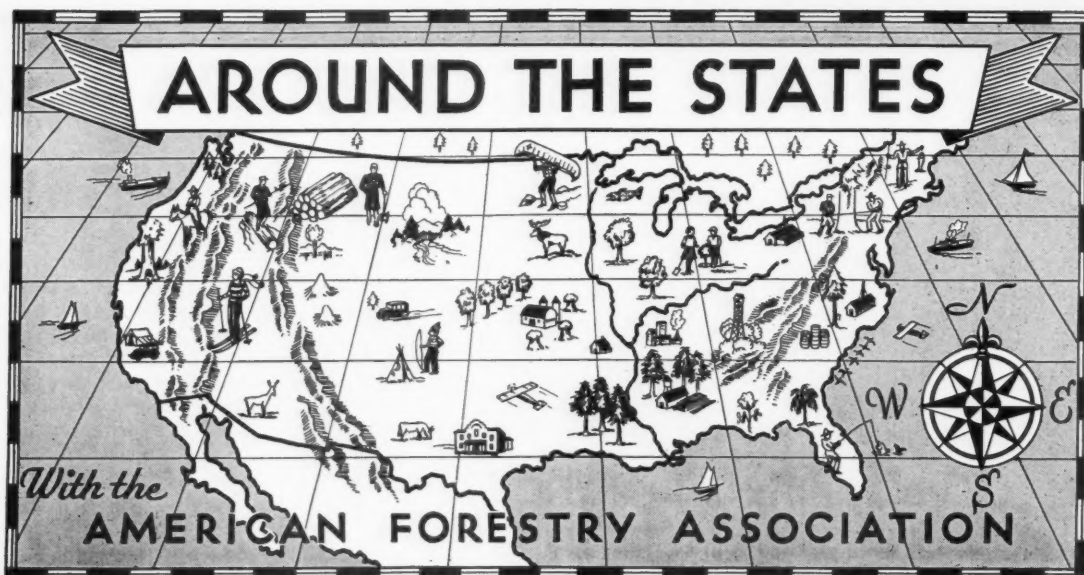


The Famous "Churchyard Sycamore" at Jamestown

On the southwest corner of the historic campus of William and Mary College, at Williamsburg, Virginia, stands one of the most famous old trees in the South. It is the William and Mary Oak, and is designated as a line corner on the map of lands for Secretary Ludwell, made by Robert Beverley in 1678, and showing the lands later sold to the college.

The tree is at least 275 years old, since the map antedates the establishment of the college by fifteen years. The trunk measures nine and one-half feet in circumference, and is eight feet high to the main living branch, which is one of the three original branches at this point. It was nominated to the Hall of Fame for Trees of The American Forestry Association by J. Luther Kibler.

If this ancient relic of the primeval woodlands could speak, it would tell not only of the days when Indians attended commencement exercises at the college, but it would tell of the three fires that swept through the classic walls of the oldest academic building in America.



Roosevelt Hails Forest Progress

After an inspection trip of the newly forested areas in New York State early in June, Governor Franklin Roosevelt declared that the State's reforestation program was a modern example in coordinated social planning.

Accompanied by a group of conservationists and State officials, the Governor toured areas planted under the enlarged schedule prepared by the Reforestation Commission and learned that this spring 23,000,000 trees had been planted and 122,000 acres acquired.

Praising the progress made under the schedule of appropriations approved by the people of New York last fall, the Governor used first-hand data obtained on the tour to point the general value of the program to the people of the State. He cited the timber wealth that would occur on maturity of the crop; increase in food supply through stocking the areas with game together with special shrubs to feed them. The stabilization of waterflow and prevention of soil erosion were emphasized by him. In addition he pointed that this spring the planting has provided unemployment relief.

"Two-thirds of the land purchased has been farm land and the balance has been cut-over woodland where there is a poor second growth," said the Governor.

He pointed out that at the present time more than one hundred planting projects were in operation and also stated that the 23,000,000 trees planted so far this spring had cost about eight dollars an acre and that at maturity the total cost would be about sixteen dollars an acre.

Among those accompanying Governor Roosevelt were George D. Pratt, president of The American Forestry Association; Henry Morgenthau, Jr., conservation commissioner of New York; Ellwood M. Rabenold, president of the State Fish, Game and Forest League, and Clarence L. Fisher, president of the New York Forestry Association.

Experimental Forest in Minnesota

Three field laboratories, comprising a total of approximately 5,396 acres, have been set aside as experimental forest areas within the Chippewa and Superior National Forests, in Minnesota, by the United States Forest Service. These areas were chosen after a careful study as being representative of the various types and conditions found in the forested area of northern Minnesota.

The Cutfoot Experimental Forest is located approximately twenty-four miles from Deer River and is well stocked with thrifty, growing

timber which is largely Norway and jack pine, although other types are also represented. The Pike Bay Experimental Forest lies approximately six miles southeast of Cass Lake. It is predominantly an aspen-hardwood type but includes a small area of virgin white and Norway pine. The Kawishiwi Experimental Forest, comprising 2,635 acres, is located about thirteen miles southeast of Ely, Minnesota, within the Superior National Forest. The three



W. C. McCormick

most important timber types on the Superior National Forest, and in the region immediately surrounding that forest, are represented within the experimental area.

W. C. McCormick Named Head of Florida Forestry Association

W. C. McCormick, for the past year membership director of The American Forestry Association, and formerly director of the Southern Forestry Educational Project of the Association and the states of Florida, Georgia, Mississippi and South Carolina, on June 15 became secretary of the Florida Forestry Association, with headquarters at Jacksonville.

In Florida he will develop a state wide campaign against forest fires, particularly woods

burning, under the auspices of the Florida Forestry Association, and at the same time promote educational work to the end of greater forest appreciation and protection.

As director of the Southern Forestry Educational Project, Mr. McCormick achieved one of the greatest educational projects ever undertaken in the field of popular forestry. Through the medium of motion pictures, lectures and literature, he carried, over a period of three years, the message of fire prevention and forest appreciation to more than 2,000,000 school children in the four states.

Prior to this project, Mr. McCormick was assistant state forester of North Carolina, in charge of fire protection work, and served with the United States Forest Service in the Pacific Northwest and in the Rocky Mountain States for a great many years as ranger, supervisor and on special fire control detail. A native of West Virginia, he spent most of his early years on a ranch in Texas, attending the University of Oklahoma. Following this he became associated with engineering.

Conservation in the Republican Platform

The platform adopted by the Republican Convention at Chicago, June 16th, contains two declarations bearing upon conservation.

Under "Agriculture" it declares: "We favor a national policy of land utilization which looks to national needs, such as the administration has already begun to formulate. Such a policy must foster reorganization of taxing units in areas beset by tax delinquency and divert lands that are submarginal for crop production to other uses. The national welfare plainly can be served by the acquisition of submarginal lands for watershed protection, grazing, forestry, public parks and game reserves. We favor such acquisition."

The conservation plank proper reads as follows: "The wise use of all natural resources freed from monopolistic control is a Republican policy initiated by Theodore Roosevelt. The Roosevelt, Coolidge, and Hoover reclamation projects bear witness on the continuation of that policy. Forestry and all other conservation activities have been supported and enlarged.

"The conservation of oil is a major problem to the industry and the Nation. The administration has sought to bring co-ordination of effort through the States, the producers and the Federal Government. Progress has been made and the effort will continue."

FORESTRY IN CONGRESS

(Continued from page 416)

through ages of rock weathering and plant succession. He described farm lands along the valleys of Utah which have eroded during the last two generations so that whole settlements have been abandoned. In a country which has been reasonably stable for centuries, recent floods have moved boulders weighing from seventy-five to two hundred tons each. This has occurred since the first settlement of the country and is largely attributed to the depletion of plant cover caused by fires and over use by live stock. Had erosion, such as has been experienced within the memory of men now living in the region, occurred at repeated intervals before settlement, Professor Bailey declares there would be no soil on the steeper slopes.

Observations and studies made by Professor Bailey and his collaborators show clearly that under the semi-arid conditions of a large portion of the west, the amount of run-off is roughly proportional to the sparsity of plant cover, the loss of surface litter, and the compacting of the soil. Questions from members of the Committee revealed these conditions are directly dependent upon the manner in which the land is used or abused, and to a considerable extent are a reflection of the extent of the grazing use.

The Committee ordered that copies of the hearings be sent to all members of the President's Committee on the Public Domain. Discussion in the Public Lands Committee brought out the fact that the Colton bill is not necessarily a substitute for the Nye-Evans bill,—nor are the two antagonistic to one

another. Administration contemplated under the Colton bill will stop further deterioration of the land. Meanwhile the Federal Government retains the properties, and should Congress decide that the lands be turned over to the states, they will receive them in an improved and a more productive condition than is at present possible.

During executive session of the Public Lands Committee on June 7, a subcommittee consisting of Representatives Colton of Utah, Leavitt of Montana, Hare of South Carolina, Arentz of Nevada and Chavez of New Mexico, was appointed to study the bill and report to the Committee. No report was made at the next regular meeting on June 14. Passage of the bill can scarcely be expected during the present session, but a favorable report will expedite its progress when it is re-introduced next December.

On the ground that cooperation between the Federal Government and the States for game conservation is an entirely new policy, Representative LaGuardia of New York on June 6 requested that a vote on S. 263 be postponed. This bill is intended to stimulate game management and wild life conservation by assuring cooperation among the several government bureaus and with the States. It passed the Senate on December 17 after having been introduced at the request of the Special Committee on Conservation of Wild Life Resources.

Senator McNary's bill, S. 773, to authorize the Secretary of Agriculture to lease as much as eighty acres of national forest land for periods of thirty years for residence, recrea-

VACATIONS

ALLAN RANCH

BEYOND ALL ROADS

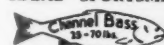
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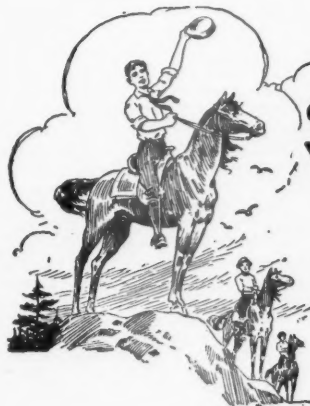
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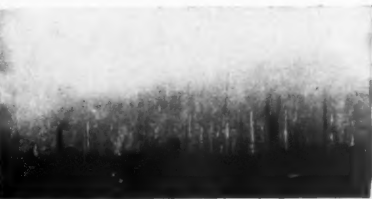
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tion and industry, and also to develop national forest lands and make them available for public use and enjoyment, was amended so as to strike out all reference to the development of a recreational policy before it passed the Senate on June 8. This removes a portion which is highly desirable for the more satisfactory development of the National Forests. A resolution from the Board of Directors of The American Forestry Association, passed last February, specifically pointed out the need of a recreational and educational program on National Forests. The amendment to the bill was made at the suggestion of the Secretary of Agriculture in accordance with the present policy of avoiding any further need for appropriations. Accordingly, its consideration is postponed until the financial situation is improved. The Secretary of Agriculture's report indicates that the portion of the bill as passed by the Senate will increase receipts from special uses above the 1931 figure of \$301,712.49.

On June 6, the House passed H. R. 11944, to permit the Forest Service to make contracts for services, materials and supplies, necessary for protecting the national forests, before the passage of the annual appropriation bill, but subject to such a bill. This promises to avoid serious handicaps which sometimes occur during a succession of bad fire seasons.

On June 8, the Senate passed S. 36, carrying \$125,000,000 for the Federal-aid highway construction program for the fiscal years 1934 and 1935. The bill includes \$12,500,000 for each of the two fiscal years for roads and trails through national forests, \$3,000,000 for roads over public lands, and \$7,500,000 for roads in national parks and monuments. Passage of this bill during the present session of Congress was urged by the Committee on Post Offices and Post Roads. It will enable the distribution of funds to the states during the coming fall months and encourage the state legislatures to appropriate their funds with no uncertainty as to the Federal policy.

Ripley Bowman Dead

Ripley Bowman, secretary of President Hoover's Timber Conservation Board, died suddenly at Washington, D. C., early in June. His death resulted from injuries in an airplane accident while serving in the Naval Air Service during the World War. He was buried in Arlington National Cemetery.

Mr. Bowman was forty years old and a native of Cambridge, Massachusetts. He was a graduate of Syracuse University and devoted his early life to aviation. He was one of the first pilots to serve with the Wright Brothers and later with the Curtiss-Wright Corporation. He was named secretary of the Timber Conservation Board a little more than a year ago.

West Coast Lumbermen Vote to Continue

Stockholders of the West Coast Lumbermen's Association on May 31 at Tacoma, Washington, unanimously decided to continue the Association and to carry right along all of its principal activities which include the following: mill inspections of lumber, supervision of members' grades, issuance of mill certificates, re-inspection certificates, grade marking, traffic work, and essential statistics.

The action of the stockholders also included a reduction of dues from ten cents a thousand board feet, on shipments for the combined mill and logging unit, to three cents; and from five cents for the individual lumber manufacturer or independent logger, to one and a half cents.

Dr. Chase P. Ambler Dies

With the passing of Dr. Chase P. Ambler of Asheville, North Carolina, forestry and conservation loses a vigorous supporter and friend. For more than forty years Dr. Ambler's personality has been felt in the development of the program for eastern National Forests. As a young physician in Asheville, where he



Chase P. Ambler

From that time on Dr. Ambler devoted much of his time and means to awaken public interest in the forests of the Appalachian region and to help make their acquisition a national issue. At his request the work was undertaken by The American Forestry Association in 1905. Together with a few of the outstanding conservation leaders, he called upon Senator Chauncey Depew of New York, and Joseph Cannon of Illinois, then Speaker of the House, who gave their support to the ideas and soon helped in the passage of the Weeks Act of 1911. Following closely upon the passage of the act was the creation of the Pisgah National Forest with headquarters in Asheville.

As a physician and pulmonary specialist, Dr. Ambler's reputation was nation-wide. In many ways he did much to make Asheville a health resort, but most lasting of all are his accomplishments toward forest protection and development in the Southern Appalachians.

Born in Salem, Ohio, November 15, 1865, he graduated from the medical department of Western Reserve University, Cleveland, Ohio, in 1889, and early associated himself with Asheville. For a short period he practiced medicine in Canton, Ohio, where he knew President William McKinley and many of his personal friends. During the administration of President McKinley Dr. Ambler was appointed expert examiner for the Bureau of Pensions in the Department of the Interior. This appointment was continued when the Bureau of Pensions was absorbed by the Veterans Bureau. Dr. Ambler is survived by his widow, four children, seven grandchildren and a brother.

Organize Forest Development Company

Organization of the Forest Development Company in Idaho has been announced. With a capital of more than \$500,000 the company will promote reforestation of lands, protect and develop lands suitable for silviculture, grazing or colonizing, and engage in all kinds of commercial, trading, agricultural, logging, lumbering, manufacturing, and real estate business. The land holdings of the corporation were placed at 175,000 acres in Clearwater, Latah, Benewah, Shoshone, and Bonner counties.

Lumber Industry Not Defeated, Says Compton

The lumber industry was discussed in the light of present day general economic difficulties by Wilson Compton, secretary and manager of the National Lumber Manufacturers Association, in his report to the annual meeting of the Board of Directors of the Association at the Hotel Congress, Chicago, June 3. Attacking the present day problems directly, Mr. Compton took as his theme—"The Lumber Industry Is Not Defeated Unless It Quits."

The important business before the meeting was consideration of the future of "organized national activity in lumber trade extension, industry stabilization, industry representation and industry policy." In his report Mr. Compton named three outstanding affirmative needs for the national industry: First, that the financial pressure to liquidate timber investments be relieved, either by reduction in annual timber carrying costs, or lightening the burdens and the extent of private timber ownership; second, increase in profitable income sources; and third, lower cost of getting lumber and forest products from producer to consumer.

As a means of accomplishing these and other needs Mr. Compton offered ten recommendations: (1) Maintenance of the essentials of trade promotion activity; (2) continuance of the work of securing basic supply and demand data; (3) maintenance of protective features of industry work; (4) permanent plan for sustaining essential industry activities; (5) responsible public representation for the forest products industries through completion of organization of the American Forest Products Industries; (6) that appropriate effort be made to seek the removal of the fundamental causes of over-production; (7) that the Executive Committee at the proper time analyze tariff discriminations with a view to framing a lumber tariff policy that will have united industry support and the acceptance of the regional associations; (8) that a special Joint Committee of the Executive, Trade Extension and Transportation Committees be appointed to consider the practicability of united industry action seeking a substantial and permanent general reduction of the entire national level of lumber freight rates; (9) that action be taken to insure cooperation with the Lumber Survey Committee of the U. S. Timber Conservation Board with respect to its current recommendations of action for lumber industry stabilization; and (10) that in view of the recent decision of the Supreme Court confirming the broad powers of the States in the control of production involving natural resources, consideration be now given to the desirability, and the practicability, through a conference of the Governors of the principal timber states, of presenting plainly to the States two specific problems: first, regulation of lumber production, and second, substitution, in part or whole, of yield tax for annual property tax on standing timber; and to this end, of securing the cooperation of the Timber Conservation Board and the President of the United States.

Investigation of Woods of World Under Way

A systematic investigation of the woods of the entire world by the International Association of Wood Anatomists is now well under way, it has been announced by the secretary-treasurer, Professor Samuel J. Record of the Yale School of Forestry, following a conference in New Haven of representatives of the Bussey Institution and the Biological Laboratories of Harvard University, the Botanical Department of Cornell, and the Forestry Department of Yale.

"It is a big undertaking and involves a lot of cooperative work," said Professor Record,

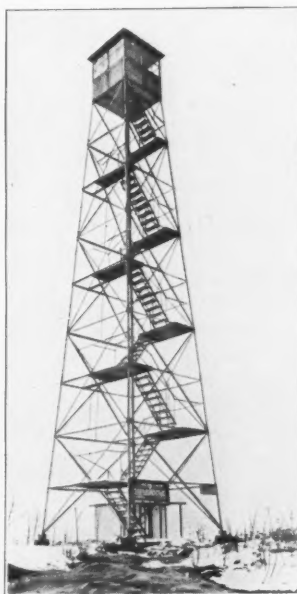
"but we now have an enthusiastic organization with a present membership of fifty scientists in eighteen different countries under the direction of an executive council of eleven members of eight nationalities. We are pooling our materials, farming out research problems, and standardizing our terms and methods so that the results will all be on a strictly comparable basis. In this way we expect to make more and better progress in the next ten years than would be possible in fifty years of the scattered efforts of individuals."

"The largest and most comprehensive collection of woods at present is at the Yale School of Forestry and contains over 21,000 fully catalogued samples representing over 6,000 named species of about 2,000 different genera. Cuttings large enough for scientific studies have already been made of selected groups and forwarded to scientists at several institutions in the United States, Canada, England, Holland, Germany, France, Russia, Japan, Australia, and New Zealand. Another large collection is at Buitenzorg, Java, with 15,000 samples of Dutch East Indian woods. Many of these have already been contributed to the Yale collection and a recent proposal has been made to contribute a much larger number so as to make them more readily accessible for cooperative studies sponsored by the Association. There are also large collections in the Philippines, India, Federated Malay States, as well as in European countries."

Izaak Walton Annual Meeting

Resolutions embodying an appeal for the elimination of black bass from the commercial market, endorsement of a waterfowl stamp to finance a duck program, approval of the efforts of the Alaska authorities to protect the big brown and grizzly bears, and opposition to the transfer of public resources to the states, were chief among those adopted at the annual convention of the Izaak Walton League of America, at Chicago, April 21, 22 and 23.

Dr. Preston Bradley, of Chicago, was re-elected president. Vice-presidents elected were Dr. M. D'Arcy Magee, of Washington, D. C.; G. Warren Kinney, of Seattle; Dr. Elias Bush Guile, of Utica, New York; Judson L. Wicks, of Minneapolis, and John G. Bradford, of Sioux Falls.



Courtesy Penna. Dept. of Forests and Waters.

FIRE TOWERS

THIS 60-foot tower, erected in Elk County, Pennsylvania, is one of the many Aermotor fire towers which are found all over the forest regions of the United States. The Aermotor Company, years ago, designed and made the first galvanized steel towers for forest protection purposes. Aermotor towers have been found to be so well suited to the purpose that they are used almost exclusively. They are strong, durable and safe to climb. The prices are surprisingly low.

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Dr. Henry B. Ward, Chairman of the Conservation Committee of the Isaac Walton League says: "This is certainly one of the finest outdoor magazines published on this continent."

Book News



and



Reviews

PLANNING AND PLANTING THE HOME GARDEN, by Pauline Murray. Published by the Orange Judd Publishing Company, 15 East 26th Street, New York City. 412 pages. Liberally illustrated. Price \$3.50.

This is one of the most helpful and informative books on gardening ever published. It is a work designed to instruct the novice in the art of planning and planting attractive diminutive as well as elaborate gardens.

In preparing this book, the author has considered the fact that potential gardeners require some general, practical knowledge, and she has met this consideration by detailed discussions of every essential step in the making of all kinds of gardens. She tells where, how, and what to plant, and advises where to place suitable shade and ornamental trees and shrubbery to the best advantage. She also includes helpful suggestions relative to garden accessories, furniture, implements, winter protection, and maintenance.

An interesting feature of this book is a calendar of explicit directions for the care of the garden to be carried out each month of the year. By following these simple instructions one may work with confidence of ultimate success.

Those persons of limited means and areas who yearn for an attractive garden will find this book the most comprehensive and concise single volume on gardening ever attempted.—D. H.

TREES OF WASHINGTON, by Erle Kauffman. Published by the Outdoor Press, 1918 Harford Avenue, Baltimore, Maryland. 90 pages, illustrated. Price \$1.00.

Closely interwoven in the life of George Washington and of the great city that bears his name are trees. Next to the Capitol, the Washington Monument, the Lincoln Memorial, and the magnificent expanse of sky few features of the city are more impressive than the trees that grace her streets and parks and homes.

That trees were a dominant influence in the life of Washington—the man, is attested time and again in the complete excerpts from his diary on this subject, to which one important chapter is devoted. These carry forward from March 21, 1760 when the young man of twenty-eight recorded the planting of fruit and nut trees on his estate, until November 31, 1788,—just five months before he took the oath as the first President of the United States. Reading it one senses the peace and restoration of nerve force that the work on his beloved estate gave the man who that day "Finished pruning the Weeping Willows, and other trees in the Serpentine walks front of the house . . ."

In assembling and including these quotations from Washington's Diary in an attractive book of moderate price, Mr. Kauffman has done a real service. More than that, however, he gives us a vivid record of the trees at Mount Vernon, the trees in various parts of the East

associated with the life and achievements of Washington, and descriptions of some of the notable trees in the city of Washington that help knit together the history of that famous city.

"Trees of Washington" will serve as a source book for many who would seek information regarding Washington's interest in trees. It will serve to refresh the memory of others who are already more or less familiar with the trees of Washington,—the man and the city, and it should prove a most delightful souvenir to the thousands of citizens who are visiting Washington during this Bicentennial year.—G. H. C.

SWAMP AND DUNE. Published by Willard N. Clute and Company, Indianapolis, Indiana. 90 pages. Price \$1.50.

This is a book of the dunes, telling of their origin and the swamps that surround them as contrasted with the nearby prairies in northern Illinois. It is a colorful account of the distribution of plants in this region and the beauty of their flowering, carrying right through the growing season from earliest spring to the waning of the year.—L. M. C.

THE BIRDS OF THE AIR, by Allen W. Seaby. Published by The Macmillan Company, 60 Fifth Avenue, New York. 179 pages—illustrated. Price, \$2.25.

The nursery rhyme from which the title is taken suggests the nature of the book. It does not follow the plan of the usual classified treatise, but there is much here that has not yet been set down in books. The author reveals many new corners of bird life as the result of patient observation in the outlying parts of Britain—the Shetlands and the Scillies, the Welsh and Scottish mountains, and the rich hunting grounds of the East Coast flats and shores. All the illustrations are sketches from life, and they are of the quality that many who know Mr. Seaby's work will expect and enjoy.—E. K.

ATTUNE WITH SPRING IN ACADIE, by Claire Harris MacIntosh. Published by G. P. Putnam's Sons, New York. Price, \$3.50.

"Spring is here," declares F. Schuyler Mathews in his Foreword to this charming book, "when one is suddenly awakened at dawn by the first bird-song in the leafless tree beside the window. That song settles it." And from then on, until the glory of summer dims, the earth is made a joyous place by their thrilling music. To have been able to capture this, and to frame the happy life of the singers in verse and song is the contribution of the author in her book, "Attune with Spring." And, added to its charm, is the practical value attaching to an appendix classifying the land birds of Nova Scotia and Eastern Canada.—L. M. C.

AMONG THE CURRENT PUBLICATIONS

More Turpentine, Less Scar, Better Pine, by Eloise Gerry, United States Forest Service. Released by the Department of Agriculture. Price, 5 cents.—Some of the advantages gained by low chipping.

The Modern Airport, by Sterling R. Wagner. Issued by the New York State College of Forestry, at Syracuse.—A study in landscape engineering of the location, design, construction and management of airports.

Soil Erosion Control, by O. R. Zeasman. Issued by the Extension Service of the College of Agriculture, University of Wisconsin, at Madison.—A study of control methods by crops, terraces and dams.

Plant Succession and Grazing Capacity on Clay Soil in Southern New Mexico, by R. S. Campbell. Issued by the Department of Agriculture with the cooperation of the Association of Land-Grant Colleges and Universities.—A look at the continued overgrazing conditions on the semidesert ranges of the Southwest.

Care of Trees, by L. E. Sawyer. Issued by the Illinois State Natural History Survey.—A circular dealing with the watering, fertilization, trimming and surgery of trees.

Nomenclature in the Literature of Forest Fire Control, by Shirley W. Allen, Department of Forestry and Conservation, University of Michigan, Ann Arbor.—What forest fire control terms mean.

Sierra Club Bulletin. Issued by the Sierra Club of California.—An interesting illustrated publication dealing with the High Sierras.

Laws and Regulations Relating to Game, Land Fur-bearing Animals, and Birds in Alaska. Issued by the United States Department of Agriculture.—Presenting new game and fur regulations to become effective July 1, 1932.

Izaak Walton League Handbook. Issued by the Washington, D. C., Chapter.—Where and how to fish around the District of Columbia.

Properties of Western Larch and Their Relation to Uses of the Wood, by R. P. A. Johnson and M. I. Brander, United States Forest Service. Issued by the Department of Agriculture. Price, 35 cents.—Character and range of the western larch forest, their mechanical and physical properties, and their uses.

The Role of Fire in the Redwood Region, by Emanuel Fritz, associate professor of Forestry, University of California. Issued by the College of Agriculture, University of California, at Berkeley.—Past fires and their causes, how they affect composition of the forest, and the redwood fire problem.

European Larch in the Northeastern United States, by Stuart S. Hunt. Issued by Harvard Forest, Petersham, Massachusetts.—Distribution, growth, yield, culture and management of European larch.

Receipts and Costs on Nevada Range Cattle Ranches for the Years 1928, 1929 and 1930, by C. A. Brennen. Issued by the University of Nevada, Reno.—A review of methods and procedure.

Forester Sustains Rejection of Timber Exchange

Turning down an appeal of Boise-Payette, Inc., a lumber company, from the rejection by Regional Forester Rutledge of the Intermountain Region of the company's offer to trade 25,000 acres of land, bearing a quarter-billion board feet of timber, for timber on National Forest land, Chief Forester R. Y. Stuart has sent to the company a notice affirming the regional officer's decision, on the grounds that the trade did not offer "equal value" to the United States Government. The proposed exchange had aroused interest in the Northwest, and the company sent attorneys to Washington. Major Stuart conferred with them and with Senators and Representatives from Idaho before affirming the rejection.

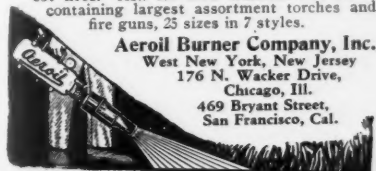
The company had offered to the government the 25,000 acres in the watershed of the North Fork of the Boise in exchange for Boise National Forest timber along Moore's Creek and on areas of the Payette and Weiser National Forests. The land and timber offered is in mountainous country, inaccessible for logging operations now or under the more favorable conditions existing in 1927-1928. The timber requested in exchange by the company is partly tributary to the company's existing railroad over which logs are hauled to its Barker mill, near Boise. Another part is tributary to common carrier railroads available to anyone for transporting logs or lumber.

The company held that the timber lands it offered are valuable for watershed protection, and that logging operations by the company might lower the watershed protection value of the lands.

The Forester explained that both the National Forest Reservation Commission and the Forest Service had held to the policy of not regarding the possibility of watershed injury as an element of value that could be converted into cash by the owner of the land. In exchanges and purchases timber and land have been appraised at their actual sale or utilization value to the owner. The law limits the consideration to be given by the United States to that which is "not to exceed an equal value" with the land and timber offered.

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SEVERE INDICTMENT OF FLORIDA

Editorial from the Florida Times-Union of June 4, 1932

One of the severest indictments ever brought against Florida is contained in the latest issue of AMERICAN FORESTS, a magazine published by The American Forestry Association in Washington, D. C. This indictment is presented by Guy Fleming in an article appearing in the magazine named, under the heading: "So This Is Florida," that editorially is commented on in the magazine publishing it, and in which it is said that Mr. Fleming's article "is typical of other stories received by The American Forestry Association during recent months."

The basis of this indictment is forest fires that have raged throughout this State in recent months. It is an indictment that, although severe and, perhaps, in some instances not justifying the editorial that appears in the same issue of the magazine under the heading of "Florida—the Uncivilized," which is even more severe than the article itself, should not arouse the anger of Florida people, but, on the contrary, give them stronger determination than ever to use all the strength they can command to prevent, as far as humanly possible, such widespread and very disastrous forest fires as have occurred in the recent past; also, the prevention of extensive and enormously destructive woods-burning, so as never again to call forth such an indictment as has been brought in the instance being referred to here.

In the editorial in question it is said:

"How many thousand woodland fires have scorched the Florida landscape the past Winter, how many million acres have been burned over, or how much property damage has been sustained is not of record. The fact remains that outside the cities in the woodland sections of the State, private property has not been safe from the torch of the woods-burner. From one end of the State to the other, reports indicate ninety per cent of the forest land of North Florida has been fire swept during the fall and winter. Despite the fact that Florida is receiving financial aid from the Federal government for fire protection, that it has one of the ablest State Foresters in the country and that a small group of enlightened citizens in the State has been fighting valiantly to bring the woods-burning custom under control, the Florida public as a whole has been unresponsive and the situation has gone from bad to worse. Fire has been so rampant that even the Federal government has been unable fully to protect its National Forests in Florida. On April 14, last, ten thousand acres in the National Forest in Northern Florida went up in smoke. Fires have been burning in the Everglades—site of the proposed Everglades National Park—most of the Winter."

Truth compels the admission that much of what is said in the foregoing quoted paragraph is true. While it is stated "that a small group of enlightened citizens in the State has been fighting valiantly to bring the woods-burning custom under control," and that "the Florida public as a whole has been unresponsive," the fact, nevertheless, remains that many thousands of Florida people have done their very best, within the past two or three years, to prevent woods-burning and forest-fires generally, and to bring this form of very costly destructiveness under control. It must be admitted also that the people of the State, as a

whole, have not taken a determined stand for the suppression of forest fires, caused by the careless and the maliciously inclined setters of these fires. More and more Florida people, however, in recent and present seasons, have been aroused to the point of taking active interest in their and the State's welfare and to become actively associated with the comparatively "small group of enlightened citizens in the State" for the suppression and control of forest fires.

The State, in its organized capacity, has made earnest and commendable efforts in the line of forestry promotion and also in the line of forest protection against fires, as is evidenced in its creation of the State Forestry Service and in the work that this governmental agency is doing. However, the State and the Forest Service needs more of public support than has been given to it up to this time. Without such support and encouragement the Forest Service, no matter how good may be its intentions, or how good its work, is unable to do all that should be done along this line. In other words, the people of the State as a whole should determinedly set themselves against woods-burning, that is wholly unnecessary, and against the causing of forest fires that are preventable. Until this is done, Florida cannot hope to escape the bringing of such indictments as the one which has been brought against it in the AMERICAN FORESTS Magazine.

There are other and most serious charges contained in this indictment that cannot be referred to here. They pertain to lack of safeguarding of the property of private individuals and of the Federal Government, the interests of the latter being in various government-owned and protected forest areas within the State, all of vast value and importance to this Commonwealth. It is admitted in the editorial article appearing in the AMERICAN FORESTS Magazine that "the past Winter has been an abnormally dry one, but this condition," it is further stated, "has merely served to emphasize Florida's high fire hazard to private and public property, to Winter vacations, and to promised scenic beauty." The editorial, from which the foregoing quoted excerpts have been taken, concludes by saying:

"The Federal Government has spent some twenty years and many thousands of dollars trying to arouse a fire consciousness among Florida people. The State Department of Forestry and The American Forestry Association, working in cooperation, have spent upwards of \$75,000 in a three-year campaign of fire prevention education. The campaign was carried into every school in every county of the entire State. The minds of children were alert and responsive. If, at the completion of the campaign, the fire question had been left with them, juvenile public opinion would have outlawed woods-burning and uncontrolled fires in field and forest. But the adult population of the State instead of furnishing example and leadership has apparently cast these efforts to the flames. And so Florida still fiddles while its store houses burn."

The question is: What are Florida people going to do about it?—about this matter of wanton destruction of one of the State's most valuable and important natural assets — its forests.

Ask the Forester?

Forestry Questions Submitted to The American Forestry Association, 1727 K St., N. W., Washington, D. C., Will be Answered in this Column. A Self-Addressed Stamped Envelope Accompanying Your Letter will Assure a Reply.

QUESTION: We have here what is called silver leaf poplar, a much better shade tree than the Lombardy or Carolina poplars, and would like to know if it is the same as tulip poplar mentioned in an article in AMERICAN FORESTS of recent date.—F. H., Michigan.

ANSWER: The silver leaf poplar to which you refer is probably the European *Populus alba*, or white poplar, which has been planted widely in this country. It suckers badly and is a relatively small tree. The tulip poplar belongs to an entirely different family, closely related to the magnolias, and it is native to this country. In the Ohio Valley and the southern Appalachian mountains it becomes a magnificent tree eighty to one hundred feet high and five to ten feet in diameter.

QUESTION: What properties of a tree should a mounted twig show? How large should the twig be? Should the twig be thoroughly dried before mounting? How is this done? Would like to have other ideas and information concerning the making of an herbarium.—A. R. B., Pennsylvania.

ANSWER: A mounted twig should show several buds in order that one may see their characteristic arrangement, and enough of the twig to show bark, lenticels and leaf scars. The twig should be thoroughly dried between papers in a plant press before mounting. This will make it straight, reasonably hard and capable of staying in one position without undue warping.

QUESTION: I have read with interest the article "Fertilizing Shade Trees," by Homer L. Jacobs, appearing in the October issue of AMERICAN FORESTS, and I am writing to ask if you would be good enough to advise me of the proper chemical fertilizers to be applied to large shade trees on a lawn and the method of application. This lawn covers about two acres, the trees are large, some of them three feet in diameter and all deciduous.—S. B., N. Y. C.

ANSWER: The fertilizers described by Mr. Jacobs are reported in other publications of his as being approximately a 6-8-3 mixture and have in the order named a percentage of nitrogen, phosphoric acid and potash. Some of the more easily secured commercial fertilizers carry a mixture known as 4-12-4. Ground bone meal is also reasonably satisfactory and comparatively cheap. It releases its food elements slowly, which is desirable for trees.

The fertilizer may be put in holes bored into the ground beneath the crown spread of the trees at intervals of 2-4 feet. Holes 18 inches to 24 inches deep are bored with a soil auger and about one-fourth of a pound of fertilizer poured into each hole. Dirt may be poured on top to fill the hole. After fertilizing

the area, it should be frequently and freely watered. The boring has a dual advantage. It puts the fertilizer down where the roots may reach it and it helps to aerate the soil. This last is sometimes almost as important as is the fertilizing.

A soil auger can be made by purchasing a very wide wood bit, 2½-3 inches in diameter. A blacksmith can weld a rod about three feet long to it. The upper end of this rod should be turned to form an eye whose diameter is large enough to hold a stout stick to give leverage with which to turn the auger.

QUESTION: We have red pines that are bearing cones, and would like to know how to get the seed from them.—E. W. P., Pennsylvania.

ANSWER: Gather the cones and store in a dry room. They should be turned over once or twice each day. Assuming that there are not more than two or three bushels of the cones, it should be possible to arrange a tray, the bottom of which is made of strong wire netting of about a half inch mesh. When the cones open, enough of these can be placed in the tray to cover the bottom. They can then be shaken until most of the seeds drop out onto a sheet. For a small planting operation such as you have in mind, it will not be necessary to separate the wings from the seeds, and even a little trash will do no harm. They can be stored in cans or boxes in a cool, dry room until spring. Then the seed can be planted in beds as described in Government bulletin No. 1453 entitled "Growing and Planting Coniferous Trees."

QUESTION: When wood of a certain kind is not available for my collection, is it advisable to get the pieces of wood two inches square on the face and three-fourths inches thick directly from the trees? The lumber yard was the source of my present specimens.—A. R. B., Pennsylvania.

ANSWER: Do not attempt to get pieces of wood for your collection from standing trees unless some of the larger limbs can be advantageously pruned. If you can get into the woods sometime when lumbermen are cutting trees, you will find an opportunity to get wood specimens, otherwise the lumber yard or saw mill is the most satisfactory place.

QUESTION: Is there anything to use to prevent black walnut trees from having hanging nests of worms or caterpillars? We burn them when they are where we can get at them but many times they are up so high they are inaccessible.—A. J. T., Iowa.

ANSWER: Band trees in the spring with sticky fly paper, which should be padded or "calked" between the paper and the bark with cotton so as to force the caterpillars on to the sticky surface.

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PLANTING A WINDBREAK A TASK FOR YOUTH

(Continued from page 415)

as necessary. Loosen the soil well to secure drainage. Get the bed ready before the plants arrive. Upon arrival place the plants in a pail with muddy water to cover the roots. Never allow the roots to get dry. Cut off the ends of the young, long fibrous roots so that there will be about five inches of fibrous roots left. Plant in rows one foot apart with plants ten inches apart in the rows. Spread the roots carefully in the hole and press the soil well around the roots. Mulch well with rotted manure, keep clean of weeds and allow to remain in transplant beds for two years at least. In September previous to spring planting of the windbreak, root-prune the trees. This is done by cutting the spreading roots with a sharp spade inserted at a point half-way between the plants in the rows and between the rows. Before spring each plant will have developed more new fibrous roots assuring safe transplanting.

The varieties to use depends upon the location, soil conditions and freedom from insect pests and disease. The spruces and pines common to the section of the country can be used. White fir, (*Abies Concolor*), Black Hill spruce, (*Picea Canadensis Alba*), make themselves at home in most sections of our country in soil that is not light. White spruce, (*Picea Alba*), red spruce, (*Picea rubra*), Norway spruce, (*Picea excelsa*), white pine, (*Pinus Strobus*), Norway pine, (*Pinus resinosa*), Austrian pine, (*Pinus nigra Austriaca*), Scotch pine, (*Pinus Sylvestris*), Jack pine, (*Pinus divaricata*) and arbor vitae, (*Thuja occidentalis*), are all splendid for windbreak planting and are hardy over a large part of our country.

Examine the illustration for directions in planting the windbreak. It will be noticed that two varieties are given in a two row windbreak. This is done to secure more compactness of foliage. Pines have open foliage but if a row of spruce is placed to the windward, the desired compactness is secured. Besides the spruces retain their lower branches. Then too, two varieties will assure a windbreak in case of the destruction of one of the species by disease or pest. Two rows of trees are recommended. Where there is plenty of room three rows are even more desirable. The illustration shows the trees are staggered in rows eight feet apart with the trees six feet apart in the row. Where a protection is provided for the evergreen windbreak in a row of hardwood as shown in Diagram 2, the space between the hardwood row and the evergreens should be at least 14 feet. At this distance the evergreens will not feel the competition of the hardwoods. The hardwoods used may be any of the many fast growing species as willow—Russian preferred—poplars, soft maples and the rapid growing Chinese elm. The small trees can be grown from seed or from cuttings, or can be purchased from nurseries at a price not to exceed \$2.50 a hundred. These may be purchased as one year olds and can be planted at once in the windbreak.

In the fall before the windbreak is planted the soil should be turned to allow the sod to rot. In the spring stir again with a harrow. Now mark out the rows and the place for each tree in the row. Since the windbreak is a long established affair, no neglect should attend our efforts to get things done correctly. Use a cord to get the rows straight and a six foot stick to get the spacing. The trees in the second row will be opposite the center point of the trees in the first row and if a third row is planted the trees will be opposite the trees in the first row. After planting, the trees could

well be mulched. No pruning will ever be necessary, but after a few years the trees will begin to crowd each other and removal of as many as half will be necessary. It is well to fence off the area devoted to the planting to prevent injury from stock and chickens. Chickens that range will destroy the trees by their dusting habits. Cultivation in spring and early summer is highly desirable.

It takes a lot of thought and work to make a home attractive and comfortable, but it is the work and thought that vitalizes the home and makes its influence and attachment enduring. Many homes need windbreaks badly. They would prove a comfort to those who live within their influence and an inspiration to all who pass by and look upon houses protected by trees.

THE NATION'S WAKEFIELD

(Continued from page 392)

rehabilitating the area, the work to be done by the Wakefield Association in cooperation with the National Park Service.

At that time the Association had secured, through its own efforts, 100 acres of ground at Wakefield, had \$50,000 on hand for rehabilitation purposes, and had so interested John D. Rockefeller, Jr., in the project that he purchased about 270 acres of the historic lands at a cost of \$115,000, to save them from threatening commercialization. All these lands today are part of the George Washington Birthplace National Monument.

The National Park Service is gratified at the recent action of the Wakefield National Memorial Association, now that its main purpose is achieved, in continuing the organization to assist the Service in furnishing the house, particularly in obtaining desirable heirlooms. The association also is completing a log building in the recreational area, following an early development plan of Mrs. Rust's, to serve as a community house for visitors. Thus they carry out the traditions of true Virginia hospitality that ruled when the Washingtons owned Wakefield.

NEW WORLD FOREST FOR OLD

(Continued from page 413)

excellent thing, but if a forest is producing only ten cubic feet of merchantable material per acre annually and an equal amount is being cut when it might be producing fifty cubic feet, that looks like mighty poor forestry and generally speaking, if it be possible to produce no more than ten cubic feet with good forestry methods, it is mighty poor business to attempt to farm such areas.

European foresters had a big task to perform and they have done and are doing work of which they and all other foresters may justly be proud, but they have had the situation quite largely in their own hands for a long period of years. They know their forests and show a very real interest in their work. In spite of this fact the question was often present in my mind whether or no these very capable foresters, if they had been in private employ but had still been given a pretty free hand, would not have found means to reduce capital investment and increase net returns without endangering the permanency or usefulness of the forests in any way. The added urge from private capital for four or five per cent net return would certainly have kept the men in charge thinking much more along this line.

When, as must eventually come to pass, forest lands in America are intelligently and in-

tensively classified for production of essential products on an economic basis and areas which cannot show a return on the investment are publicly owned and held for watershed protection, game preserves and recreation purposes and pass out of the picture as production areas until, if that time comes, their products are really needed, private capital will show a much better return from accessible and highly productive areas.

Instead of forestry measures being an added cost to lumbering methods on such areas, as is the common belief, production will be increased and costs lowered through systematic and intensive control of operations. Such areas will continue to serve as game preserves and for recreation and other purposes but production of such material as the public demands will always be of first importance.

Higher returns will unquestionably be obtained from best lands in private hands when both owners and public come to know their forests better. In spite of much talk and public opinion to the contrary, this knowledge is being rapidly obtained.

It seems that in the not distant future American foresters may be able to exchange ideas with European foresters with mutual benefit. Americans should be able to show to them the possible returns from privately owned forests where only highly productive and readily accessible lands are by intensive methods kept not merely on a sustained yield basis, but with a low capital investment per unit of area are yet kept producing the largest possible amount of such products as the public most needs. Other lands, in public ownership, will be serving the purpose for which classification has shown they are best suited. The public must pay for the care and protection of such areas but they are well worth the price to any progressive country and if the time comes for a change in classification, such lands will be ready to serve whatever purpose the public demands.

CONSERVATION LEADERS IN CONGRESS

(Continued from page 405)

instead of pointing back. Most people take themselves too seriously.

"Conservation starts as an ideal and becomes a necessity. It is a necessity today. We must get back to the simple life, to simple desires. Pioneer life gave little in the way of luxury but it did give opportunity to work, to think, to develop strength, fortitude and self-denial and those things can be put to use. They are needed today."

The suspicion of a smile spread from the Senator's deep blue eyes to the corners of his mouth. "I used to think that happiness meant success and a living wage, as it is called. As I grow older I realize that we learn little except through sad experience and that strife and struggle are such stimulants that we've got to have them. This so-called depression is a challenge."

"These are just my opinions," he concluded. "I don't ask people to agree with me. There are many things on which I do not agree with others. But if each does what he feels is the right thing, it will all fit into the big plan eventually."

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Conservation Calendar in Congress

Published monthly while Congress is in session as a service to the members of The American Forestry Association. This calendar contains bills introduced between April 6 and May 5, and those introduced prior to those dates upon which any action has been taken. All bills on which the status remains unchanged will be found in *AMERICAN FORESTS* for January, February, March, April, May and June.

BILLS PASSED

- S. 4416—**NYE**—Providing for the transfer of certain school lands in North Dakota to the International Peace Garden (Incorporated). Approved May 20. Public Law No. 145.
H. R. 10236—**Revenue Act of 1932**. Approved June 6.
S. 290—**FESS**—Establishing a memorial to Theodore Roosevelt in the National Capital. Approved May 21. Public Law No. 146.
H. R. 9970—**BUTLER**—Adding certain land to the Crater Lake National Park in the State of Oregon. Approved May 14. Public Law No. 133.
H. R. 10284—**HAWLEY**—Authorizing the acquisition of land in Medford, Oregon, for use in connection with the administration of Crater Lake National Park. Approved May 14. Public Law No. 134.
S. 3953—**CUTTING**—Amending Act of February 7, 1927, promoting mining of potash on Public Domain. Approved May 7. Public Law No. 126.

APPROPRIATIONS

- H. R. 12443—**BYRNS**—Second Deficiency Appropriation Bill for fiscal years ending June 30, 1932 and June 30, 1933. To Committee of Whole House on State of the Union June 3. Reported to House June 3. Report No. 1491.
H. R. 11267—**SANDLIN**—Legislative Appropriation Bill for 1933, with omnibus economy bill as an amendment. To Committee of Whole House on State of the Union April 11. Reported to House April 11. Report No. 1036. Passed House May 3. Reported to Senate, amended, May 31. Report No. 756.

FORESTS

- S. 3711—**JONES**—Authorizing adjustment of the boundaries of the Chelan National Forest in State of Washington. To Committee on Public Lands and Surveys February 18. Reported to Senate April 4. Report No. 503. Passed Senate April 18. Reported to House May 19. Report No. 1376. H. R. 9147—**HILL**.
S. 1492—**JONES**—Adding certain lands to the Columbia National Forest in the State of Washington. To Committee on Agriculture and Forestry December 10. Reported to Senate June 3. Report No. 764. H. R. 5477—**JOHNSON**.
H. R. 9440—**HILL**—Authorizing adjustment of the boundaries of the Colville National Forest in the State of Washington. To Committee on Public Lands February 17. Reported to House May 25. Report No. 1430.
H. R. 12126—**TAYLOR**—Adding certain lands to the Gunnison National Forest, Colorado. To Committee on Public Lands May 17. H. R. 6174—**TAYLOR**.
S. 763—**McNARY**—Extending the provisions of the Forest Exchange Act to lands adjacent to the National Forests in the State of Oregon. To Committee on Agriculture and Forestry December 9. Reported to Senate May 31. Report No. 755.

- S. 4791—**ASHURST**—Amending the United States mining laws applicable to the City of Prescott Municipal Watershed in the Prescott National Forest. To Committee on Public Lands and Surveys June 1.
S. 773—**McNARY**—To facilitate the use and occupancy of national-forest lands for purposes of residence, recreation, education, industry, and commerce. To Committee on Agriculture and Forestry December 9. Reported to Senate May 31. Report No. 754.

PARKS

- S. 4070—**STEIWER**—Authorizing the acquisition of a building, furniture, and equipment in the Crater Lake National Park. To Committee on Public Lands and Surveys March 14. Reported to Senate April 26. Report No. 596. Passed Senate May 9. Reported to House May 20. Report No. 1396.
H. R. 12198—**TAYLOR**—Providing for the acquisition by the United States of the Grand Caverns in Knox County, Tennessee. To Committee on Public Lands May 20.
S. 4374—**BINGHAM**—Empowering the superintendent of the Hawaii National Park to perform functions now performed by United States commissioner for said national park. To Committee on Agriculture and Forestry April 12. Reported to Senate May 12. Report No. 684.
H. R. 11895—**TIMBERLAKE**—Authorizing the President, in his discretion, to make adjustments in the eastern boundary line of Rocky Mountain National Park in vicinity of Estes Park, Colorado. To Committee on Public Lands May 5. Reported to House May 19. Report No. 1388.

PUBLIC DOMAIN

- H. R. 11816—**COLTON**—To stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development; to stabilize the livestock industry dependent upon the public range, and for other purposes. To Committee on Public Lands May 3. Part I of the public hearings on this bill has been published. The hearings were concluded on June 2.
H. R. 11970—**SMITH**—Providing for the control, regulation, and development of certain areas of the public domain in the State of Idaho, and for the creation of a livestock grazing reserve therein. To Committee on Public Lands May 9.

REORGANIZATION

- H. J. Res. 390—**MAAS**—Appointing a joint committee to study the fiscal policy of the Federal Government. To Committee on Rules May 18.
S. J. Res. 155—**BAILEY**—Providing for reduction of expenditures by bipartisan cooperation. To Committee on Expenditures in the Executive Departments May 9.
S. 2419—**LAFOLLETTE**—Establishment of Administration of Public Works. To Committee on Education and Labor December 22. Hearings which were held on March 9, 10, and 11, have been published.

ROADS

S. 36—ODDIE—Providing Federal aid in construction of roads, including an appropriation for forest roads and trails. To Committee on Post Offices and Post Roads December 9. Reported to Senate May 19. Report No. 719. H. R. 4716—Almon.

WATER

S. 4443—JOHNSON—Providing emergency relief of Palo Verde Valley, California. To Committee on Commerce April 21. Reported to Senate April 28. Report No. 614. Passed Senate June 1.

WILD LIFE

H. R. 10359—PALMISANO—Providing for the establishment of a bird and game sanctuary of the Potomac River. To Committee on District of Columbia March 9. Reported to House May 17. Report No. 1358. S. 3792—TYDINGS. Reported to Senate May 10. Report No. 672.

H. R. 11991—MONTET—To turn over to state agencies, for use in the enforcement of laws for the protection of migratory birds, forfeited vessels acquired by the Department of Justice and Treasury Department. To Committee on Judiciary May 10.

S. 4715—REED—Authorizing the transfer to the Department of Agriculture of portions of the Fort DeSoto Military Reservation, Florida, for use as a migratory-bird refuge. To Committee on Military Affairs May 20. H. R. 12421—McSWAIN.

H. J. Res. 399—CHRISTOPHERSON—Authorizing a compact or agreement between Nebraska and South Dakota with respect to hunting and fishing privileges and the establishment of game preserves on sand bars, islands, and shores of the Missouri River. To Committee on the Judiciary May 20.

H. R. 8395—JOHNSON—Granting a right of way or easement over lands of the United States within the Upper Mississippi River Wild Life and Fish Refuge to the Savannah-Sabula Bridge Company, for operation of a highway. To Committee on Agriculture January 25. Reported to House May 7. Report No. 1240.

H. R. 5642—Authorizing and directing the transfer of Widow's Island, Maine, by the Secretary of the Navy to the Secretary of Agriculture for administration as a migratory bird refuge. To Committee on Agriculture December 14. Reported to House May 14. Report No. 1307. S. 1863—McNARY.

S. 263—WALCOTT—To promote the conservation of wild life, fish, and game. Passed Senate December 17. Reported to House May 3. Report No. 1204. Serial I of the hearings

before the House Committee on May 3 has been published.

S. 4726—HAWES, WALCOTT, McNARY, NORBECK and PITTMAN—Providing funds for acquisition of areas for use as migratory bird sanctuaries, for protection of certain migratory birds, and for enforcement of Migratory Bird Treaty Act. To Special Select Committee on Conservation of Wild Life Resources May 21. Reported to Senate May 26. Report No. 735. H. R. 12246—MILLIGAN.

H. R. 12387—SIMMONS—Authorizing payment of twenty-five per cent of receipts from Federal wild-life refuges under administration of the Secretary of Agriculture to the states for county public schools and roads, and for disposal of surplus animals, products, and privileges in connection with the administration of such refuges. To Committee on Agriculture May 31.

MISCELLANEOUS

S. 4755—WAGNER, ROBINSON, PITTMAN, WALSH and BULKLEY—Providing for grants and loans to the several states to aid in relieving unemployment, to facilitate the construction of self-liquidating projects, to provide for the construction of certain authorized Federal public-works projects. To Committee on Banking and Currency May 25.

H. R. 11891—PRALL—Providing for emergency construction of public works to aid in increasing employment. To Committee on Ways and Means May 5. S. 4076—WAGNER.

H. R. 11989—KELLER—Providing for emergency construction of public works to aid in increasing employment. To Committee on Ways and Means May 10.

H. R. 11944—JONES—To facilitate execution of and economy in field season contracts of the Forest Service. To Committee on Agriculture May 7. Reported to House May 10. Report No. 1266. Passed House with amendments June 6. S. 4261—McNARY—Reported to Senate May 18. Report No. 704.

S. J. Res. 154—McNARY—To provide information in regard to utilization of farm lands under prevailing conditions. To Committee on Agriculture and Forestry May 9.

S. 4495—CAREY—Amending Section 1 of the Stock-Raising Homestead Act, as amended. To Committee on Public Lands and Surveys April 26. Reported to Senate April 28. Report No. 617. Passed Senate June 1.

H. R. 12445—RAINEY—To broaden the lending powers of the Reconstruction Finance Corporation, and to create employment by authorizing and expediting a public-works program. Known as the Garner Emergency Relief Bill. To Committee on Ways and Means June 3. Reported to House. Report No. 1505. Passed House June 7.

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CERTIFICATES AWARDED NUT TREE PLANTERS AND GROWERS

The presentation of a certificate of recognition and registration on June 11 to Representative Sol Bloom, head of the United States George Washington Bicentennial Commission, by the Council of the National Nut Tree Planting Project, signalized the distribution of these awards to thousands who have participated in the planting of trees with traditions. The certificate bears the gold seal given only to successful tree growers because the Mount Vernon walnut tree descendant which Mr. Bloom assisted in planting on the grounds of the United States Capitol one year ago is flourishing. Chief Scout Executive James E. West of New York, Dr. A. F. Woods, director of scientific work of the federal agricultural department, Mrs. Alice H. Richards, regent of the Mount Vernon Ladies' Association of the

Union, and representatives of the D. A. R. and General Federation of Women's Clubs, Mrs. C. A. Finley of Pittsburgh, Mrs. G. O. Gillingham of Washington, D. C., and numerous Boy Scouts have been given similar awards.

Successful tree growers as well as planters are recognized by the Council representing the sponsors of the nut tree planting program—Boy Scouts of America, the United States Department of Agriculture, The American Forestry Association, and the American Walnut Manufacturers' Association—to stimulate tree care as well as tree planting. Upon reporting that nut trees they have set out have grown for one year or more the tree planters receive the gold seals. This phase of the program promises to increase in importance for many trees perish through lack of care.

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SAVING THE DOME OF NEW HAMPSHIRE

(Continued from page 401)

In 1917 the Society for Protection of New Hampshire Forests established on Mount Kearsarge the Frank West Rollins memorial forest of 521 acres. This reservation is in memory of Governor Rollins, who founded the Society, and who for fifteen years was its first president. Then and subsequently the State of New Hampshire acquired 839 additional acres. Thus, 1,360 acres on this mountain already are in public ownership. The State land includes the beautiful little lake, 1,250 feet high on the mountain, in the town of Andover, known as Morey Pond.

Five years ago two forested areas of 800 acres each, located respectively on the east and west sides of the mountain, came upon the market at a price of \$14,000. The two tracts have a tax valuation of \$12,000. A tentative offer of \$10,000 by the Society for Protection of New Hampshire Forests was refused. Last year during its campaign for forest roadside reservations the Society asked the lumber company that owns the property to donate a strip of land beautifully timbered, located between the State highway and the Connecticut River, just south of Hanover. The company agreed to refrain from cutting this river strip. This transaction revived the Kearsarge negotiation and a new price of \$8,000 was agreed upon, to continue until September 1st, 1932.

Toward bringing this great mountain into complete public ownership, three notable gifts already have been made. Senator William E. Chandler, prior to his death in 1917, gave to the Society a two-thirds interest in the mountain road on the Warner side. This road extends from the base to the summit, now abandoned in its upper stretches. The road affords a charming trail to the top. A shelter cabin has been erected cooperatively for all who come by the Society and the American Legion Post of Warner. W. B. Douglas, President of the New England Structural Company, has donated thirty-five acres located at the top of the mountain road on the Wilnot side. On this site formerly stood the Winslow House, named for Admiral Winslow, who commanded the battleship *Kearsarge*.

Mrs. Jane A. Tracey, a summer resident of New London village, has given \$1,000 toward the purchase price.

Both of the 800-acre areas are prominently located on the mountain. That on the east is in sight from the cities of Franklin and Concord and the several towns at the southeast nearly as far as Manchester. The west area is visible from New London, Sunapee, Newport and other towns as far as Claremont.

The New Hampshire Federation of Women's Clubs has been invited to take a leading part in securing the remaining sum necessary for purchase. The Council of the Federation has endorsed the project. When the additional areas are acquired, title will rest in the State of New Hampshire.

An isolated peak, this great blue dome, glacier-swept, is an inspiration to all beholders. Can America save it?

The late Charles W. Eliot, President of Harvard University, once said:—"To establish a forest reservation is as nearly immortal as any human effort can be; it is self-perpetuating and lasts from generation to generation."

THE IMPROVEMENT OF TROUT STREAMS

(Continued from page 395)

project, engaged the Institute to carry on similar stream improvement there. During 1931, Mr. Tarzwell undertook the planning and study of two separate undertakings on privately controlled streams, where the expenses were borne by the landowners. In this way, it was possible to expand the study quite materially. In addition, a few other experimental improvements have been built directly by the Institute, in waters open to public fishing.

At the present time 875 numbered improvement devices are under observation, distributed in the following streams: Little Manistee River in Lake County, Pigeon River in Otsego and Cheboygan counties, the East Branch of the Black River in Montmorency County, Gamble Creek in Ogemaw County, Huron River in Washtenaw County, and the River Rouge in Wayne County. All of these streams are trout waters, with the exception of the Huron River.

These experiments in trout stream improvement have proved to us that it is possible and practical to increase the supply of trout by improving the spawning facilities, the shelter and the food for the trout, where needed. The experiments have taught that it is possible to modify the stream for the better, at a low cost,

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and in a lasting way. Without going into the details of the methods of improving the streams, or of the design of the various devices to modify the current, depth, bottom and food supply of the water, I will very briefly indicate how a stream can be modified so as to increase its trout production. The details of methods and designs will be dealt with in a bulletin on "Methods for the Improvement of Michigan Trout Streams," now being published by the Institute for Fisheries Research of the University of Michigan.

Many of our Michigan trout streams, or long sections of them, are devoid of natural spawning grounds. It is of course important to supplement stocking of these waters by natural reproduction. It has proved possible to produce the gravel conditions fit for spawning where they did not formerly exist. One method which has been tried with success is the hauling of gravel into a feeder stream devoid of natural gravel. Another method of proved utility has become apparent from our experimental work on the Little Manistee River. Here a number of log and stone constructions have speeded up the current so as to wash out the sand and thus to expose the original gravel bottom of the stream. And trout have already utilized these artificially exposed gravel stretches for their spawning activities.

Many of our Michigan trout streams, or portions of them, are sadly lacking in cover, and trout will not remain where they have no place to hide or to call their home. Every angler knows stretches of familiar streams which contain no shelter and no trout. We have taken such stretches, provided shelter therein and have proved that trout have taken quickly and readily to the homes made for them. An example is a long bend of the Little Manistee River in which there were no trout holes and no trout. Anglers wise to the stream avoided this long unproductive stretch by cutting across a narrow neck of land. As an experiment this stretch was improved in 1930. Log devices were installed to deflect or concentrate the current and to force it to dig holes such as trout love to lie in. Other shelter was provided. In the spring of 1931, good catches of trout were made in this formerly unproductive stretch. Now the wise angler will not skip this mile of the stream, which has cheaply and effectively been made to add to the trout catch of the river. This experience has been general. Hundreds of miles of now troutless or nearly troutless stream courses in Michigan can be made habitable for trout.

Trout can not grow well unless they have the proper amount of natural food. Since very little trout food grows in a soft sand bottom and much develops on gravel, every one of our devices which removes sand and exposes gravel has increased the food growth. Still more productive of food are the weed beds in the stream. It has been proved possible, both in Europe and in Michigan, to increase the weed beds where they are too few, and so increase both food supply and shelter for the trout. Furthermore, the log and brush shelters put in the streams provide such food, for insects hatch and crawl about on this material in great quantity.

Why do our trout streams need improvement? They have been made in response to various natural laws and not for trout; but knowing what conditions make for trout existence, multiplication and growth, we are able to make these streams more suited to trout life than they naturally were. Logs lying in a stream may merely pile up sand or become covered, without benefit to the trout, but the same logs intelligently fixed in the stream so as to increase the current, dig holes and to provide cover and food for the fish, will make the trout production of the stream markedly greater.

Further, many of our streams have been all but ruined by human agencies. Cutting of forests and agriculture have often made the streams too warm and have caused sand to wash in and to smother the food. Often the streams have been cleared of all snags or other trout cover to facilitate the floating of logs or pulp wood. At times the streams have been cleared of fish shelter in the mistaken idea that so doing improves the appearances of the stream. Not only the natural but also the artificial shelters and current modifiers may greatly increase the charm of the stream by diversifying the water course, current, surface and bottom. The riffles produced often increase the attractiveness of the stream by adding to the music of the flowing water.

There are many whole streams, and long sections of others, which can be made to produce more trout if they are properly improved. Probably none of our streams are incapable of producing more fish and more fishing if they are properly improved. And better trout fishing means more health, more happiness and more income to the far northern part of our country. That is vital, for the very life of our northlands is dependent upon the development of its greatest resources: its pure air, its open spaces and its wild life.

New York Wood Waste Survey Completed

Thousands of tons of wasted wood in New York State are available for conversion into scores of useful products, according to the National Committee on Wood Utilization of the Department of Commerce, whose field work on the wood waste problems of that State has just been completed.

Under the chairmanship of George W. Sisson, Jr., representing the American Pulp and Paper Association, a committee, composed of representatives of leading forest industries in New York State, the New York State Department of Conservation, the New York College of Forestry, and the Empire State Forest Products Association, has cooperated with the National Committee on Wood Utilization in taking stock of the available wood waste resources of the State.

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FOREST PEOPLE -- BIRD MAN

(Continued from page 403)

"In my talks," said the Bird Man, "I endeavor to bring out the unrevealed features of nature's beauty, as seen in my feathered friends and the forest life. People who get into the mountains only once a year must have their interest in the outdoors aroused in some practical way. So I have assembled, over an eight-year period, thirty bird caricatures. I've made these caricatures from odds and ends picked up from all parts of the valley—squirrel-gnawed pine and fir cones, knots, roots, twigs, in fact, the things that people ordinarily grind under their feet and pass by as too trivial to notice.

"With these queer birds I appeal to the humor that most folks have—even the sophisticated. And so I lead them into an interest in natural things that would ordinarily escape them. This often fosters a continued interest."

How does Mr. Sonn gather the material for his caricature birds? It comes as a matter of inspiration no doubt, the artistic expression of early training for a career as an artist. A crushed pine cone may reveal a strange shape, a new beauty, or some harmonious lines that will assist in assembling a new bird model. One of his caricatures, "The Professor," is an oak puff ball possessing a peculiar facial expression, mounted on two spindly legs made from yellow pine twigs, and feet provided by petals from a sugar pine cone.

Simple? Yes, so far as the actual materials involved, but they need the loving touch and skill of an artist like Herbert Sonn.

Prepare to be disillusioned if the robin is your favorite bird.

"People appear to be more sentimental about the robin than any other bird," said Mr. Sonn, "yet I don't like the robins as well as the stellar jays. The robin is one of the easiest birds to tame. Throw a handful of raisins on the ground near you, gradually bringing them closer and closer. With patience you will shortly gain the robin's confidence and he will come to your hand. Whenever a quarrel around food trays takes place most people are willing to place the blame on the stellar jay, but in most cases it is the robin who is at fault. They are tremendous eaters and consequently very dirty around the camp.

"The stellar jays, in contrast, are bluffers—not fighters. They are extremely intelligent, do not make friends readily, are light eaters and extremely clean in their habits."

At this point, a stellar jay with unusually black, piercing eyes flew to the birdman's arm, closely watching his left hand reach into his pocket. Out it came with a double-jointed peanut.

"Squa-wk! Squa-wk!" called the bird in a raucous voice as he proceeded to break the shell away and seize the nuts.

"This is Big Eyes," explained Mr. Sonn. "He has just given you a demonstration by his noisy call of my single objection to the stellar jays. Yet, these birds are the best kind of watchmen.

"Only yesterday I heard a terrific commotion among them, and their scolding increased in intensity as they approached my workshop. Suddenly a huge brown bear appeared, hoping to find me absent so he could rob my supplies, but he was disappointed. During the summer season I have as many as six bear callers in a day. I am always warned of their coming by the jays."

Noted visitors from all over the world make their way to Mr. Sonn's forest retreat. Mrs. Ray Lyman Wilbur, wife of the Secretary of the Interior, was an interested visitor to his camp last year. Horace M. Albright, Director of the National Park Service, has expressed himself as keenly appreciative of Mr. Sonn's contribution to Yosemite. For he is a true artist, revealing rare colors in nature's least suspected creations.

WHO'S WHO

Among the Authors in This Issue

R. F. HAMMATT (*Modern Vigilantes*) is assistant regional forester in charge of Public Relations in Region I, United States Forest Service, with headquarters at Missoula, Montana. First entering the service in 1906, he served in Oregon and California, as forest supervisor and in public relations work. In 1921 he resigned to become secretary of the California Redwood Association, returning to the Forest Service in 1931. He is a native of Massachusetts and was graduated from the Harvard Forest School in 1906.



R. F. Hammatt

CARL L. HUBBS (*The Improvement of Trout Streams*) is director of the Institute for Fisheries Research, at the University of Michigan, at Ann Arbor.

HOWARD L. CHURCHILL (*New World Forest for Old*) is a forester associated with Finch, Pruyn and Company, Inc., of Glen Falls, New York.

HORACE M. ALBRIGHT (*The Nation's Wakefield*) is director of the National Park Service, having been associated with the Service since its creation. For more than nine years he was superintendent of the Yellowstone National Park, in Wyoming, and field assistant to the director. He is a native of California.



H. M. Albright

LAURA THORNBOROUGH (*Conservation Leaders in Congress*) has written much of the Great Smoky Mountain region in North Carolina and Tennessee, a number of her articles having appeared in *American Forests*. At the present time she is connected with the Motion Picture Division of United States Department of Agriculture, at Washington.

PHILIP W. AYRES (*Saving the Dome of New Hampshire*) is secretary of the Society for Protection of New Hampshire Forests, and one of the foremost forest protectionists in America.

GREGORY V. DRUMM (*A Memorial to Pioneer Lumbermen*) is connected with the East Michigan Tourist Association.

NATT NOYES DODGE (*Board Money*) is a writer and photographer of Seattle, Washington. He was graduated from the Colorado Agricultural College.

JAMES V. LLOYD (*Forest People—The Bird Man of Yosemite*) is assistant to the superintendent of Yosemite National Park, in California.

WAKELIN McNEEL (*Forest Page for Boys and Girls*) is assistant club leader of Wisconsin, with headquarters at Madison; G. H. COLLINGWOOD (*Forestry in Congress*) is forester for The American Forestry Association.

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FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

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Member A. B. C.

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